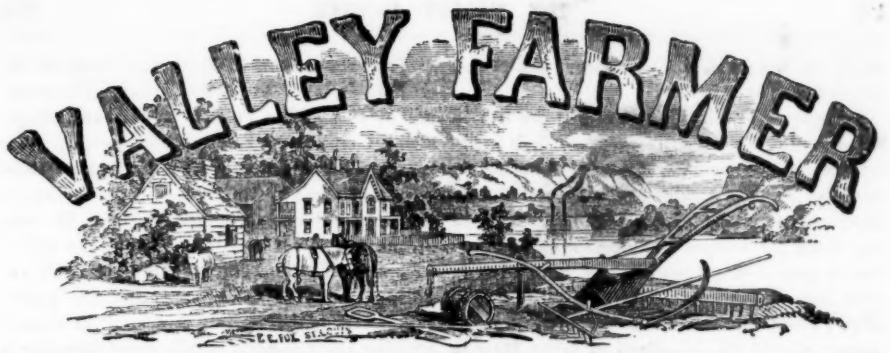

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AGRICULTURAL READING AND EDUCATION.

The art of printing is one of the greatest blessings ever bestowed upon mankind. It is through this art that a history and knowledge of all other arts are handed down and communicated to us from the early periods of the world. Without this art all the nations of the earth would still be in a state of barbarism. It is through the art of printing that the present generation of men upon the earth are enabled to know what has transpired among all nations, in all previous ages in the history of man. It is through the agency of this mighty engine—the press—that the world is now making such rapid strides in all the arts and sciences of civilized life. Knowledge, through this agency, accumulates with every passing generation of men. Every age is not only possessed of all its own knowledge, but it can claim as CAPITAL all the knowledge of all the ages and generations that have passed into the great ocean of eternity. A knowledge of the history, the sciences and the arts of all previous time, as well as the present, is ours, if we will but avail ourselves of the means which are within the reach of all to secure it. Besides the general means employed to disseminate universal knowledge to all mankind, through the agency of printing, each profession, art and trade, has its organ, devoted to its special department and interests. The departments of law, medicine and theology, have their schools, colleges, and periodicals, through which they acquire a complete knowledge of the past, as well as all that relates to the passing events of each succeeding day. So it is with all the arts and pursuits of life. The progress of these within the last half century has far exceeded all that had been acquired in hundreds of years previous.

The science and practice of Agriculture form the basis of all other pursuits of mankind. It is a pursuit that is susceptible of greater improvement than almost any other. The number of people engaged in it exceed those engaged in any other calling, and we may say greater than all other pursuits united, yet as reasoning, intellectual beings, the ten or twelve millions of laboring farmers in the United States have derived less benefit from the art of printing than any other class of citizens. Too many of them neglect to read the recorded experience and understand the dearly bought knowledge of the skillful agriculturists in the world.—This neglect to turn the sources of knowledge to account, to keep pace with the improvements in other departments of industry, is at once a serious private loss, and a great public misfortune. The evil is plain, palpable, and confessed by every well-informed person. But how is it to be removed? This is the question of questions of those who would banish all prejudice and gross ignorance, all stupid indifference from the popular mind, and substitute in their places cultivated reason, sound morality, and an undying effort to make themselves and the

world in which they live, wiser, better and happier than ever before.

Recently, a few leading spirits in the United States, seem to have aroused from their indifference to this subject, and are laboring to establish schools and colleges connected with experimental farms, in which farmers' sons may learn the science and practice of farming. One or two of these institutions have already gone into operation. The one in Michigan affords every encouragement that similar institutions should be organized in every State in the Union. In a letter recently received from the President of that College, he says: "Our institution, after one year's trial, has proved successful, and for every vacancy at the commencement of our next term, we have had half a dozen applications." Preparations are now making for the organization of similar institutions in several other States; and, if Congress, at its present session, after a protracted indifference, will but pass the bill of Mr. Morrill, now before it, every State will have the means at command to establish an agricultural school and experimental farm. The consequent benefits that would accrue to the nation in twenty years, can hardly be estimated.

In a former article we alluded to the 352 agricultural schools now established in different parts of Europe. Some of these are on a most magnificent scale. That near Paris, in France, embraces, in connexion with the college, twelve hundred acres of land, with extensive improvements. There is also another at Versailles, employing nine first class Professors, with three thousand six hundred and fifty acres of land.

The Royal Agricultural College, at Cirencester, England, is another noble institution, employing six Professors. It has seven hundred acres of land for agricultural experiments and illustration, for the teaching of young men to become scientific and practical farmers in the fullest sense of the term.

But while all England has been awake to this important interest, why is it that our State and National legislators have been so indifferent to it? Those who are familiar with the character of the men who constitute these bodies, can readily answer. The remedy lies with the people—the farmers themselves. It is a duty they owe to themselves, to the prosperity of the country, and to their own posterity, to set aside all mere party questions, and elect only such men to fill these responsible stations as will extend such encouragement to this great interest as the welfare of the country demands.

While the nations of Europe and some of the more favored States in this Union are extending every possible facility for the encouragement of education among their people, what has the *enlightened* and *patriotic* legislature of Kentucky done at its late session? Why, it was only with extraordinary efforts on the part of the friends of the farmer, that the act to encourage and sustain the State Agricultural Society, was not annihilated, and the pitiful sum asked by the Society to defray the cost of printing its transactions was voted down by a very large majority. And probably upon the assumption that "ignorance is bliss," they have repealed the act sustaining the State normal school, which had been in existence but two short years, but was in a fair way to furnish teachers for every portion of the State, to take the place of those heretofore found indispensable from the Yankee land, and against whom the ignorant and narrow-minded entertain the strongest prejudices. This act of the late legislature would stamp the counsels of a semi-barbarian nation with disgrace. Even in the early period of Cherokee civilization, their deliberations were marked with more wisdom, intelligence and patriotism. But we have wandered somewhat from the subject we had in contemplation when we began this article. In the absence of schools for the education of farmers' sons, a very respectable periodical literature has sprung up, devoted to this great interest, in the United States, within the last twenty-five years. Among the numerous agricultural papers now published in almost every part of the Union, there are some conducted with a commendable degree of ability. Yet taking the aggregate circulation of all these, it does not reach one-twentieth of what it should; but a very small proportion of the farmers are subscribers to any one of these. In this age of progress it is impossible to carry on any branch of business without employing every means of knowing what the rest of mankind are doing in the same branch—what was the last discovery, and how the most can be made from the capital and labor employed. Reading and reasoning, thinking and acting, are rapidly changing the whole face of the civilized world. Such as persist in refusing to read, study and improve the inner man, will travel in the foot-steps of those untutored savages who have become extinct on the very soil these would-be farmers are professing to cultivate, because they despised the admonitions of cultivated Reason. The period has gone by when men can

expect to succeed in doing all by main strength. Labor directed in this way, will not only wear out in vain, the hands that toil, but will wear out or impoverish the soil upon which they are employed. We have seen one girl in a cotton mill attend six power looms, weaving 1260 yards a week, for which she is paid five dollars. In India, where weaving is done on the main strength principle, a woman must labor twenty weeks to produce an equal amount of goods, and will receive four cents a day, or 24 cents for her week's work. Similar benefits are derived from the use of the improved implements of agriculture of the present age, guided by skillful hands and intelligent minds.

Science adds so immensely to the productive power of human muscles, that but a few hours of daily labor are required to feed and clothe one comfortably, leaving an abundance of leisure to be employed in moral, intellectual and social culture and improvement. Why, then, is there so large a proportion of the farmers of the Western States who fail to supply themselves with one or more agricultural journals? There can be no well-grounded excuse on account of the cost. Half a dozen of the best monthly and weekly agricultural periodicals can be obtained for a year, at a cost of less than ten dollars,—the instruction and profit that may be derived from them bears no comparison to this insignificant amount. If bigotry leads any farmer to suppose that he knows enough concerning the business in which he is engaged, let him at least do his sons the justice of supplying them with an agricultural paper, that they in turn may labor upon an equal footing with those in the age in which they are to live.

The West is now well supplied with agricultural journals, (a list of which we will publish at a future time), yet we venture to assert that not more than one farmer in twenty is supplied with a single copy. If these were better sustained, the farmers themselves would be the gainers by it. Their conductors would be encouraged to bestow more thorough labor and experience upon them, and thereby greatly increase their power of doing good.

Kentucky, one of the greatest and most exclusively agricultural States, has been for a long time without an agricultural journal. Indeed, we might almost say it never had one. With the exception of about three years when the Kentucky Farmer was in existence, near twenty years ago, no work deserving the name, has ever appeared in the State until the establishment of the Valley Farmer in 1856. This publication had then been in existence seven years, and had reached a larger circulation than any other similar work in the West, and the circulation, under its present conductors, has greatly increased. This work was established and published in St. Louis. The climate, crops, &c., in Missouri being similar to those of Kentucky and neighboring States, an arrangement was made to locate an editor and publisher in Louisville, and supply Kentucky with the long needed *desideratum* upon a basis that would bid defiance to all the combined causes that had led to the failure of every other attempt to sustain an agricultural journal in the State. But no sooner was the Valley Farmer fairly under way in the State, than a designing individual, intent on breaking it down, started the project of another paper. This scheme was successful so far as to induce individuals to assume the responsibility and management of the work under the delusive expectation that the organization of the Kentucky State Agricultural Society would go far to sustain it. The work came into being under the name of the *Western Farm Journal*—the boasted "organ of the Kentucky State Agricultural Society." But being deficient in all the elements of success, it died, after a brief existence of a few months, involving the publishers in great pecuniary loss; its circulation at no time reaching to as many hundreds as the Valley Farmer had thousands. Its pages were in great part made up of matter borrowed from Eastern Journals, and about as well adapted to the wants of the Western farmers as it would be to those of Oregon or the Sandwich Islands. On this point, we have said thus much in justice to ourselves. The Valley Farmer is now the only Agricultural publication in this part of the West. It is a work upon which we bestow all our time and talents, and we are determined that it shall be filled exclusively with *practical matter, expressly adapted to the varied wants of the farmers of this portion of the great Mississippi Valley!* And while its circulation has been greatly extended, yet we do not believe that one farmer in twenty are subscribers to this or any similar work, and there are thousands who know nothing of its existence. In the absence of all other means of acquiring knowledge to which we have referred, we are anxious that the Valley Farmer should find its way into every farmer's house in the land, and if all of those who know its merits would take the trouble to extend its circulation, as hundreds have already done

and are still doing, it would not be long before it would be found on the tables and at the firesides of fifty thousand farmers. We are always ready to send specimen numbers to any who may desire them.

It is the importance of the great business of Agriculture that has induced us to dedicate our life to the work, and we are anxious to extend the greatest good to the greatest number. And we only wish that those who receive our monthly visits could be influenced by the same considerations, and aid in giving our journal the widest possible circulation.

DRAINING, HIGH MANURING AND THOROUGH CULTIVATION.

We have frequently alluded to the importance of land draining, but its benefits are so little understood in the West, that we presume all we have said has influenced but few farmers to investigate the subject. Any improvement in agriculture, not demonstrated by practical experiment, is apt to be regarded by farmers as wild theory and not worthy of their attention. It is but a few years since the first drain tile was laid in the United States, and up to that period it was only marsh land that was supposed could be benefitted by draining, although the system of upland draining with tile has long been practiced in England, and its benefits fully appreciated.

The first experiment in tile draining in the United States was made upon elevated and rolling land on the border of Seneca lake, near Geneva, N. Y. This was rather a stiff, clay soil, that would hardly produce fifteen bushels of wheat per acre, but since the system of drainage has been adopted it has yielded from thirty to forty-five bushels per acre. So striking have been the results of draining, upon this farm, of about three hundred acres, that thousands of acres in that vicinity and in other portions of the State, have since been drained, with similar results. These facts have been proclaimed through the agricultural papers until enterprising farmers in other States have been led to investigate the matter, and have entered largely into the operation of draining. The first machine for forming drain tile was sent to this country by Professor Norton, of Yale college. This lay useless for a long time in New York, when it accidentally came to the knowledge of Mr. John Johnston, who purchased it and put it into operation. Since then, important improvements have been made in the machines, and considerable numbers of them are now employed in different States.

We have before spoken of the success of Thos. H. Collins, near New Albany, Ind., in draining. Heretofore his drains have been made with slate, a material that renders draining expensive, and the drains laid with it are not always permanent. Mr. Collins has already laid three miles of this kind of drain, and so beneficial has it proved, that last fall he procured a tile machine and made and burnt one kiln. These have all been laid, forming branches running into the large slate drains, which are to be used as main drains. He will continue to lay these until his entire farm is drained. His land, like most river bottoms, is highest near the bank of the river, sloping back towards the hills. Although the slate drains are laid at a great distance apart, they so effectually carry off the water that planting can be commenced several weeks earlier than before they were laid, affording a great advantage for the maturity of the crop, before the dry weather of summer cuts it short, increasing the product two or three fold. His crops are chiefly confined to potatoes and cabbage for the New Orleans market.

The drain tile works at this place will be continued in operation for the supply of tiles that have already been engaged for several farms, and for others who may want, as soon as those that are ordered are supplied.

We recently spent a day in examining the improvements that are in progress on this farm. The proprietor, if not the Mechi of America, he is of the West. We shall watch the progress and results of the draining enterprize with interest, and will report accordingly for the benefit of our readers.

Concentrated Manures.—Mr. Collins is carrying out another enterprize scarcely less important than that of draining. We allude to the saving of the blood, steamed heads and other refuse of the hog killing establishments, for manure. We have frequently urged this subject upon the attention of farmers near the cities, where large numbers of hogs are annually killed, but Mr. Collins, we believe, is the first who has taken hold of the business. To secure the blood Mr. C. has prepared large vats which are placed under the killing floor and receive the blood as it runs from the animals through the floor grates. This is hauled out in tight wagon bodies. The hogs heads, after going through the steaming process to obtain the fat, are also hauled to the farm, which with the blood, is incorporated with creek mud or depos-

it, making the most valuable manure. One hundred and thirty two-horse wagon loads of blood and refuse of the steam vats have been hauled out the past winter and made into a compost, with six hundred wagon loads of creek deposit. The value of this can only be appreciated by those who have used it, or know its worth by comparative analysis. It is extremely rich in nitrogenous matter, as well as every other element that is necessary to grow every plant known. In it are phosphate and carbonate of lime, ammonia, carbon, in short, in the best form, all the essentials of vegetable growth, in the most concentrated form. In fact it is corn, only in another form, and requires only to be returned to the soil to produce this grain in abundance, as well as grass, wheat, potatoes, cabbage, &c. While the farmers of our country are paying millions of dollars annually to the government of Peru for guano, at an immense cost for transportation thousands of miles across the ocean, we have in our midst an immense supply of this highly concentrated food of plants, which is suffered to go to waste just at the doors of the farmers. Until within a few years all the hair of the thousands of hogs annually killed in the west was also thrown away. It is now all carefully husbanded for manufacturing purposes, but as a manure no animal or vegetable substance is more valuable and none more durable in its application. We give these facts for the benefit of those who have the opportunity to secure these substances and they should never be allowed hereafter to go to waste.

Of Mr. Collins' method of saving and applying liquid manure from his yards and compost deposits, we have before spoken in the *Valley Farmer*.

While we were on the farm we were pleased to witness the operation of Croskill's Clod crusher in the preparation of ground for potatoes. It is a most valuable machine in preparing the ground for all crops, but for winter and spring grain, and hemp, it is of immense value, and would pay its cost in a single crop of one hundred acres. Mr. C. was instituting two experiments in the mode of manuring and planting potatoes, by way of proving their comparative advantages, the result of which we shall be pleased to notice after the maturity of the crop.

Another valuable improvement we witnessed, which is original with Mr. Collins. It is a new style of "vine boxes," a device of market gardeners to protect early melon and cucumber vines from the frost and depredations of the bug. Usually they are made about twelve inches square, of common inch boards, with thin cloth or millennet, tacked over the top; these are somewhat expensive, where several hundred of them are used in a single garden, and the cloth when once fastened on in the usual way, is liable to speedy decay, as the boxes are generally piled up frequently out of doors when not in use. Mr. Collins' improvement consists in substituting round boxes, made at the half bushel measure factories, and of about the style and dimensions of that measure, without the bottom; the hoop or piece of which they are made is rather thinner. The cloth or netting is drawn over the top and confined to its place by a narrow hoop sufficiently large to slip over the top, out side, binding the cloth to its place.—When the season for their use is over, the hoop is raised and the cloth taken off and laid aside in a dry place, ready for another season. In this way they will last several years. These boxes are made with great facility, costing but about seven or eight dollars per hundred.

CULTIVATION AND AERATION.

The success and perfection of the growing crops will now depend, in a great degree, upon proper cultivation during this and the next month. Upon a sufficiently fertile soil, properly prepared, it is cheaper to raise sixty or seventy bushels of corn to the acre than it is to raise only thirty. No land, surcharged with water, can produce good crops; all such land requires drainining, or else the farmer must wait for the slow process of the summer's sun to carry off the excess of moisture by evaporation, before his corn can make a start, and then it is too frequently the case it is overtaken and cut short by drouth. We will assume, then, that land must be sufficiently dry and properly prepared before the seeds are planted. With this preparation success is half secured, particularly with the great Western staple, Indian corn. The farmer may then bid defiance to drouth, if he will but faithfully perform the after culture. A grain of corn, submerged in water, or excluded from a due quantity of air, will no more germinate and grow than it would if planted in an ice berg. Air is as essential to the roots of a growing plant as it is to those parts above ground. To afford the due proportion of air to the roots of a growing crop, care and judgment must be exercised, and the proper implements employed in order to execute the

work of cultivation thoroughly, and at the same time to do no injury to the roots. We hope that the mistaken notion that once so generally prevailed among farmers, that the cutting and tearing of the roots of corn promoted its growth has yielded to more practical common sense.—Any mutilation of the roots of a growing plant produces a serious injury to its perfect developement. This error has arisen from the fact that after a crop of corn has received its last deep and thorough plowing, if the ground be sufficiently wet, the crop makes a vigorous and rapid growth, notwithstanding the plow has torn up and carried with it a train of the fibrous roots from every hill as it passed. This only proves the value of thorough and proper cultivation, for notwithstanding the violence done to the growing plants, by tearing away on both sides of the hill the numerous roots, with their ten thousand mouths, through which the plants are fed, they not only recover but make a strong and rapid growth. But suppose at this last plowing the weather happens to be dry; what is the consequence then? They cease to grow, the lower leaves turn yellow and die and it is said to be "firing." The injury thus caused in one instance is as great as in the other, only, nature in the one case had within her reach the means (moisture) to aid her in repairing the damage, while in the other, the moisture is lacking, and the whole extent of the injury becomes apparent and irreparable.

On a soil, (either naturally or artificially,) drained and thoroughly broken up and pulverized with the roller and harrow, the crop will require but little deep after cultivation with the plow. In cultivating a crop of corn, if the plow is used at all it should only be while the plants are small, and before the roots extend so as to be injured by it. With the proper previous preparation of the soil, the cultivator is the only implement that is required to maintain a thoroughly pulverized surface and afford sufficient air to the roots of the growing crop. Most farmers are in the habit of giving their corn, potatoes, &c., a certain number of dressings with the plow or cultivator. No specific rule can well be laid down as to the number of times a crop should be worked, but when it is possible the cultivator should always be run after a rain, and before the earth becomes so dry as to form a crust. The great object is to keep a constant, mellow surface, and with proper management the labor of running the improved cultivators, now in use, so as to keep the ground light and lively, will be found but little greater than the three set times of plowing after the old rule. A mellow surface admits the air, heat and moisture always to the roots, which are the essential stimulants to a healthy, vigorous growth, and a sure protection against drouth. If the surface is pulverized soon after a heavy rain, preceding a drouth, corn will never "fire" in consequence of working it. It is only owing to plowing corn after being too long neglected that this evil ever occurs.

Another important advantage secured by the use of the cultivator in the place of the plow in working summer crops is, in keeping a level surface. No benefit is derived from the practice of hilling corn, but on the contrary, a serious injury. No hilling up is necessary to support the stalks. Nature provides for that in the numerous *braces* each well cultivated stalk throws out. All the earth that is thrown from the middle between the rows to the hills, is removed from just where it is most needed as a bed for the roots at the most critical period of its after growth, when the grain is forming. The absurd notion of hilling corn was borrowed from the Indian, who, without the neatly constructed implements of agriculture with which the present generation are blessed, had no means of breaking up the ground, but planted the corn on the top of the soil, and with the use of shells hilled the earth over it. The advantages of cultivating potatoes with a level surface, or nearly so, are equally great, the nearer level the ground is left the better, except a slight ridge that may indicate the place of the rows when the crop is to lay over for late digging in the fall.

Before the close of this month and in the beginning of June the weeds will be on a strife with the crops for the ascendency. A timely and judicious use of the cultivator will secure a constant mellow surface, thorough aeration to the roots and keep the weeds always in subjection and insure a more profitable return for the labor bestowed than the old method of half doing the work at three set times with the plow.

TO DESTROY ANTS.—Take some pieces of rather open sponge, wet them in a solution of molasses and water; place the pieces where the ants appear, and in a short time the sponge will be filled with them, the sponge should then be dipped in a basin of hot water, and again saturated with the molasses and water, and replaced for a new supply. Repeat this for a few days and the ants will either all be destroyed or disappear.

GREAT TRIAL OF REAPERS AND MOWERS.

We continue some further extracts from the report of John Stanton Gould, chairman of the committee of Judges on the trial of Reapers and Mowers, at Syracuse, by the United States Agricultural Society.

The following remarks upon the absolute necessity to inventors and manufacturers of strict accuracy in all trials of this kind are worthy of attention:

"Interests of great magnitude, both to manufacturer and to farmer, are put at hazard, and all concerned are morally bound to take every precaution ageinst error, and every security for the discovery of truth. As an illustration of the magnitude of the interest of inventors in these trials, nothing can be more convincing than the result of the Geneva trial of the New York State Agricultural Society, in 1852.

"The taker of the first prize there, (John H. Manny,) was at that time a poor man. Last year a single manufacturer informed us that he had paid to the legal representatives of the inventor (now deceased) of that machine, one hundred and seventeen thousand dollars for the use of the patent right for machines manufactured and sold by him within the year. Another manufacturer informed us that he had paid twelve thousand dollars last year to the same parties for patent rights on machines sold by him.—Probably not less than one hundred and fifty thousand dollars were paid during the last year for the use of the patent, and a much larger one will be paid during the present year."

The following remarks will afford some idea of the great benefit the country derives from the use of these machines.

"An estimate by a committee of the New York State Agricultural Society, of the cost of cutting and curing a ton of hay with the scythe, or with a machine shows a saving of *seventy-five* cents a ton in favor of the latter. A more careful comparison would show a still greater saving. The diminution of the number of hands employed in harvesting, lightens the labors of the females of every farmer's family very greatly, at a period when their energies are always taxed to the utmost. The food consumed by extra hands is also saved. The grass being evenly spread by the machine, dries and is ready to put into cock much sooner than when cut by the scythe, and is therefore less subject to injury from dews and rains.

"Without insisting on these latter advantages and assuming seventy-five cents as the true measure of the difference, we find that the substitution of these machines for the scythes will effect a saving of ten millions, three hundred and seventy-eight thousand, nine hundred and eighty-one dollars to the United States; two millions, seven hundred and ninety-six thousand, five hundred and ninety-seven dollars to the State of New York; one million, three hundred and eighty two thousand, one hundred and twenty-six dollars to the State of Pennsylvania, and one million, eighty-two thousand, three hundred and fifty-six dollars to the State of Ohio.

"Suppose a machine be invented which will effect a further saving of twenty per cent over the best of these now in use; the annual saving effected by such machines in the United States would be, two millions, seventy-five thousand, seven hundred and ninety-six dollars; in the State of New York, five hundred and fifty-nine thousand, three hundred and eighteen dollars, and in the State of Pennsylvania, of two hundred and seventy-six thousand, four hundred and twenty-four dollars. Should the farmers of the United States use a machine twenty per cent worse than the best of these now in existence they would sustain a corresponding *loss*. There was much *more* than twenty per cent difference between the machines exhibited at Syracuse, and this fact conclusively shows how deeply the farmers of our country need a reliable guide in purchasing mowing and reaping machines, and how necessary it is that bodies charged with the responsibilities of affording them such a guide, should spare no effort to ascertain the truth, and nothing but the truth, respecting their operations."

We commend the following practical instructions for conducting similar trials to committees and judges generally. Most of the trials of harvest machines have resulted in very little good, as the awards have been too often governed by the prejudice of the judges, when they should be determined on the strictest scientific principles, mathematically worked out, after the use of proper instruments to determine draft, side draft, &c.

"We strongly recommend that in future trials this preliminary labor may receive the strictest attention. While the trials are in actual progress, the faculties of all concerned are wholly absorbed in watching their performance, and in recording the facts as they disclose themselves. Everything that calls off the attention of the judges from the working of the machines is very certain to cause the omission of some

very material fact in their note books, and the continuity of the whole chain of observation is broken by the absence of a single link.

"It should be adopted as an inflexible rule, by all societies that institute trials of agricultural implements, that no machine could be entered later than one week preceding the trial, and that none be admitted to entry without the payment of the amount fixed upon as an entrance fee. Very many machines were entered for the trial at Syracuse, and ample preparations made for them by the Society, whose proprietors found their courage oozing out at their fingers's ends before the hour of trial came.—Had the money been paid on entry, this disposition to shrink would have been greatly counteracted, and much extra labor and confusion of plans would have been avoided.

"Lots, of equal size, should be accurately surveyed, corresponding in number with the entries; they should be plainly distinguished by stakes three and a half feet long, two and a half inches wide, and three-fourths of an inch in thickness; a strip of white cloth, three inches wide and a foot long, should be fastened to the top, and the number distinguishing the lot, distinctly painted on the upper part of each stake. A strip of land, six feet wide ought to intervene between each lot, which should be cut short by a scythe or cradle before the trial begins. The want of this latter precaution was severely felt by us—disputes were constantly arising between exhibitors, respecting narrow strips of grass lying on the boundaries of their respective lots, the swath of one exhibitor retarding the operations of another, while some of the exhibitors mistaking their terminal stakes ran diagonally, instead of directly across their lots, which compelled them to cut over their own swaths, thus increasing their liability to clog. The interests of the owner of the lot, of the exhibitors, and the judges, alike demand the above precaution spoken of.

"When the field is so situated that one end of the trial lot cannot be seen from the other, straight poles, with white flags, ought to be provided and placed on the line on the ridges of the intervening hills. Indeed it is desirable in all cases to have an adequate supply of these poles on hand, as cases are continually arising when they are required.

"Blank books and pencils must be provided for the judges, otherwise the minutes will be kept on loose papers, subject to obliteration by rubbing, and to loss. Small as this item of precaution may appear, the whole of the objects of the trial may be frustrated from the neglect of it.

"Dynamometers, an instrument for measure ing side draft, a speedometer, a measuring tape, one hundred feet long, two two-foot rules, a pair of compasses, and a sestor, a large platform scale and a pair of small scales, are necessary for applying the desired tests, and it is desirable to have a carpenter on the ground with his tools, during the pendency of the trials, especially those of the dynamometer. It is also very desirable that the judges familiarize themselves with the use of the instruments, so that there will be no hesitation or uncertainty during the progress of the trial.

"No pains should be spared in effecting the preliminary arrangements, as on their completeness the accuracy of the trials will very materially depend."

Here follows a long list of important points for the consideration of the judges to secure accuracy and prevent disorder, fraud, &c., but which we lack space to give in full. The following remarks on the subject of light and heavy machines are matters of no small interest.

"Another question connected with the amount of draft, seems to call for remark in this connection. We allude to the weight of machines. This difference, on level ground, is trifling, but when ascending hills it becomes of great importance, and as most farms are more or less hilly, it becomes a matter of serious consequence to the farmer to select the lightest machine—other things being equal.

"The assent in the Hayden meadow, was estimated at 80 feet from the plank road to the eastern end of the lot. Its length was 60 rods, and the horses averaged four minutes in walking the distance. It follows, therefore, that the power expended in overcoming simply the gravity of each machine is expressed by the weight of the machine raised, perpendicularly, 80 feet in four minutes.

"The weight of Ball, Aultman & Co's. machine was 995 lbs., and Walter A. Wood's. (Manny's Patent) 719 lbs., making the difference of power from this single source, equal to that required to raise 276 lbs., 80 feet high in four minutes, which is rather more than one-sixth of one horse power. The difference is still more striking in Allen's machine, where the difference is 313 lbs., 80 feet high in four minutes, or about one-fifth of one horse power."

We have thus condensed, in this and our former article, the most essential points advised by the committe, and developed by this trial. The advantages to farmers in selecting their ma-

chines, if they regard them, will prove of immense advantage, and the suggestions to others, at similar trials, will still further extend the advantages resulting from this.

MILLET.

There is no substitute for English hay equal to the common Millet, on farms where a sufficient extent of meadow is not already established. Indeed, we believe it is already admitted by intelligent farmers that for horses and working oxen, good millet hay is more nutritious and better liked by them than timothy hay. Millet is a rapid growing crop, requiring but a few weeks to mature in, and when sown on a light, warm, well prepared soil, will yield more hay per acre than the best timothy meadows. It may be sown during any leisure spell from the Middle of May to the last of June, though probably the best time to sow the seed is the first good, moist season that occurs after the middle of May. No crop pays better for a well prepared, mellow soil. One bushel of seed is sufficient for two or three acres, according to the strength of the soil. No attempt should be made to secure from the same crop both seed and hay. When it is desired to raise seed, a half or two-thirds of the above quantity of seed is sufficient to sow. When seed is the object, it is much better to grow it in drills.

For hay, it should be harvested while the seeds are soft, and before but a small portion of the stems have turned yellow. In curing, it should be exposed to the sun only so long as is necessary for it to wilt, and expell the external moisture; it should then be put up in cocks until cured, which in good weather, will require but a short time.

Millet cut up and wet and sprinkled with a little corn meal or wheat shorts, makes as good feed for milch cows as can be given them,—they not only thrive on it, but it will greatly increase the quantity of milk.

We have no doubt that if the common millet was sown on the prairies of Iowa, where the "Hungarian Grass," which is only another variety of millet, very nearly allied to the kind under consideration, has made such a stir among the farmers, it would yield as abundantly, and hay of as good a quality as the Hungarian variety. There is usually a great scarcity of millet seed in market, but we see that some of the seed stores have an abundant supply, and of a very superior quality.

(For the Valley Farmer.)

MANURES.

The subject of manures seems to receive too little attention. Many farmers in the West know but little about the best manner of saving manure, and I doubt not some of the readers of the *Valley Farmer* are among the number. It is the desire to benefit such, and to induce others who are older and have more experience than myself, to give us ideas and instructions on the subject, that has caused me to offer these remarks.

The stable manure, in this part of the country, is generally thrown out at the door or through a hole in the side of the stable and allowed to be spread out by those interesting animals called 'hogs,' in such a manner as to be alternately exposed to heavy rains and the almost equally destructive action of the sun. Common sense should teach us that the most valuable part of manure so exposed, will be washed away by the rains; for who has not observed the dark color of water which has passed through the manure heap. The valuable gases which escape when the heap is allowed to become too dry are not so apparent to the senses, yet we are assured by chemists that ammonia and other valuable gases do escape in large quantities, under such circumstances. The importance of preventing manure heaps from being washed, or becoming too dry, must therefore be apparent to every one.

The best way of doing this, will vary under different circumstances. The plan which I think would generally be best, is to keep the manure well heaped up in a small, shallow pit, or basin to prevent its being washed, and by a plentiful admixture of litter to prevent the escape of the gases in consequence of the heap becoming too dry. A shed, over the heap might pay in some cases, but not while wagons and plows are exposed to the weather.

When it is possible, the heap should be so situated that the drainage from it will pass into a field where it will spread out over a large surface, and thus do a great deal of good, instead of running off to the gulf of Mexico, never to return. I know of a field, part of which is made so rich by the drainage from a cow yard, that it yields extraordinary crops without any other manure.

The proper time to take the manure into the field, as a general rule, is when it has become well rotted, and unless the land is a meadow which you do not intend to break up, it should be plowed under as soon as possible, so as to prevent waste. The best plan, when a meadow has become worn by cropping, is, I think, to pasture it for a few years, and then break it up. There should be two pits for manure, one to be filled up while the contents of the other are rotting.

The majority of Western farmers keep too few cattle. They always sell their steers when they are two or three years old, to their wealthier and wiser neighbors, whose farms are thereby enriched while their own become impoverished. When asked why they do not keep more stock, these men reply that, their crops are too

small. To such, I would say, keep all the stock you can, carefully save all the manure and apply it to your land, and in a few years you will have better crops, can keep more cattle, and will consequently have more manure, which will give you still larger crops; you can then keep a still greater number of cattle, will have more manure, better crops, and so on until you come to the limit, which you will find to be far above your present operations. I am now thinking of two farms which lie side by side and have been in cultivation about the same length of time (upwards of twenty years). The owner of one of them has always kept a large number of cattle, buying most of them when two or three years old. His farm is yet seemingly as rich as it is possible for land to be. The other is comparatively impoverished, while it has not yielded near so much profit as the first. Such cases are common. Cattle cannot be raised and sold at three years old with any profit at the prices they now bring. Chemists also tell us, very truthfully I suppose, that the manure from young cattle is not so valuable as that from grown ones. I think it very plain, therefore, that every one should, if possible, keep what cattle they raise until they are fit for the butcher, unless they wish to labor all their lives to enrich their neighbors while they remain poor. H. B.

Plainview, Illinois.

[For the Valley Farmer.]

EXPERIMENTS with NEW PLANTS.

THE BASKET WILLOW.

My attention was first called to this plant by the Patent Office Reports, from which I saw that several millions of dollars worth are annually imported from Germany and France; and the question occurred to me, why can we not raise them ourselves? A short time after, I found an article in the "Plough, Loom and Anvil," in which a gentleman from Vermont stated that he had tried the Salix Viminalis, and rated the produce the second year after planting, (at 5 cents per lb.) at $750 per acre. I thereupon concluded I would try it in our Missouri soil. Last spring I procured cuttings of nine varieties, eight from Prince's nurseries at Flushing, N. Y., and one from Edw. Krausnick, of St. Louis. The varieties were Helix Viminalis Extra, Viminalis Mascula, Viminalis Foemina, Viminalis Aurea, Alba Mascula, Alba Foemina, Green Osier, Forbiana. I planted some cuttings on a very dry soil, for an experiment, and some on common bottom land. On the dry soil, some produced shoots four to five feet long, on the bottom, land seven to eight feet; and I had the satisfaction of having baskets made from them the first year. Three of the varieties seem to me to be unworthy of culture here, but they may improve the second year. The best varieties are the foilowing:

1. Helix; gray, with small, narrow leaves, long, thin shoots, without side branches, and tough; requires moist ground.

2. Forbiana; almost like the former, the shoots not quite so slender, and more brittle.

3. Alba Mascula; light green; very thin and long; without branches; very tough; one of the best.

4. Green Osier; brownish green; a strong grower on any soil; very good.

5. Viminalis Extra; an enormous grower; yellow, the young shoots tinged with brown; grew nine feet high, with some side branches, which grew long enough to make good sized baskets. Would be profitable for hoop poles as well as baskets.

6. Salix Viminalis; strong grower; gravish yellow, with some side branches. I think it will be good perhaps the third year after planting, if kept well cut down, as all should be.

This experiment during the last extremely dry summer, surpassed my expectations, and I am now convinced that the basket willow can be grown with profit, nay, will prove more profitable than almost any other plant adapted to the same soil. The ground was plowed about eight inches deep and the cuttings planted in rows four feet apart and nine inches in the rows. They were kept clean with the common plow and a little hoeing around the plants.

Thousands of acres of moist land, not adapted to anything else, may be profitably planted with willows, and make a better return to their owner than his best farming lands. I invite all who feel interested, to come and see my willow plantation next fall, and judge for themselves.

THE JAPAN PEA.

I have tried this invaluable plant for two years, and find it to produce enormously. I obtained the seed from my esteemed friend F. Munch, of Marthasville, whose efforts in the cause of Horticulture and Pomology are already well known and appreciated. I have three varieties, the common green or rather yellow, the early green and the early red. The two latter I obtained only last spring; they ripen earlier than the first, but do not produce so much. Of the field culture I will now say a few words.

They should be planted about the first of May, in drills, which may be laid off as for corn with the plow, three feet apart each way, and only one pea in a hill, or two, and if they both come up and do well, they can be transplanted with the greatest ease. They form a strong, bushy stalk with numerous side branches, can be cultivated like Indian corn or potatoes, and will then produce a pint of peas to each plant. I think if I put the produce of an acre at 100 bushels, it would be a low figure, they will often produce more. In the fall, when the peas are ripe, they can be cut off or pulled up, are easily threshed with the common flail. They are excellent cooked as white beans, and much to be preferred to them, but must be soaked in water the evening before use, and then boiled in soft water. I think before long they will take the place of white beans altogether, as they are better, easier cultivated, and produce at least four times as much.

WHITE POLISH OATS.

I obtaned about three handfuls of this variety last spring from Joshua Briggs, West Macedon, N. Y., and sowed it broadcast, very thin, on common soil, without any extra culture.

The three handfuls produced a bushel of the finest oats I ever saw; white, very large grained and plump, and weighed four pounds per bush el more than the next best oats exhibited at our Agricultural fair. It also makes a great deal of excellent fodder, and will produce at least 50 bushels per acre, and if I can judge from the small experiment I made, much more, and of much better quality than our common oats.

A WILD NATIVE GRAPE.

Some years ago I found close to my fence, a wild vine of the species commonly called summer grapes, which generally ripen in September, and which seemed to me to be of excellent quality. I took some scions of it and grafted them on an old Cape vine in my vinyard and pruned and trained it like one of our tame varieties. Last summer it bore for the first time, and all who saw it were surprised at the quantity, size and beauty of the bunches it displayed. I used about thirty of the best bunches for various purposes, let the others get overripe, until they began to shrivel, and then made more than a gallon of must from them, which is now as good claret wine as any I ever tasted. It may be described as follows: bunches long, compact, not shouldered; berries medium, black with a blue bloom; very pulpy and astringent, with very dark juice. I think this vine will prove a valuable acquisition to our wine grapes.

HERMAN, Mo. GEO. HUSMAN.

EFFECT OF TREES UPON CLIMATE AND VEGETATION.

MR. BRYANT, in giving an account of his travels in Europe thus speaks of the injurious effects on climate and vegetation caused by the destruction of trees.

In all its provinces which I have seen, Spain needs a reformer like Dr. Piper in our country, some enthusiastic friend of trees, to show the people the folly of stripping a country of its woods; but in no part of the kingdom is he so much needed as in La Mancha. If the castles are deplorably naked, La Mancha is so in a greater degree, if that be possible. Until you begin to approach the Murican frontier, La Mancha has scarcely a bush; it has no running streams, and scarce a blade of grass makes itself seen; But to return to the subject of trees; they say at Madrid: "Aranjuez is overshadowed with trees; and the place is unhealthy in summer; trees grow along the Manzanares under the walls of our city, and on the banks of that river you have the tertian ague." The answer to this is that the unhealthiness of Aranjuez is caused by its stagnant waters, and that there is no proof that trees make the air in the valley of the Manzanares unwholesome any more than the pebbles of its stream. It has never been found that the health of a district subject to fever and ague, has been improved by stripping it of its trees, and letting in the sun, to bake the soil and evaporate the moisture to its unwholesome dregs. It is objected again, in the grain-producing districts of Spain, that trees form a harbor for the birds, which destroy their wheat. For these childish reasons, whole provinces, once independent kingdoms, have denied themselves the refreshments of shade and verdure, have hewn down the forests which covered the springs of their rivers and kept them perennial, and withheld the soil from being washed away by the rains, and have let in the winds to sweep over the country unchecked, and winnow its clods to powder.

Ford, in his "Handbook for Travellers," says that the rivers of the country are constantly diminshing. I do not know what evidence he has to support this assertion; he certainly produces none; but it may safely be taken for granted, that they have now less depth of water in summer than when their sources were shaded by woods, under which a bed of leaves absorbed the rains, and parted with them from a too rapid exhalation. The beds of many of the rivers of Spain are dry for the greater part of the year, and only form a channel for torrent in the rainy seasons. To renew the groves which have been improvidently hewn away would be a dfficult task on account of the present aridity of the soil and air, which are unfavorable to the growth and health of trees; but with the increase of their number, it is natural to expect that the work of rearing them would become easier. It will require, however, I suppose, centuries to wean the people of the prejudice of which I speak, and then almost as long a time to repair the mischief which is its fruits.

La Mancha has a look of cheerlessness and poverty, and the intervals between town and town are longer and more dreary than in the Castiles. I hear that the winds in summer, sweeping over this level region without an obsacle, drift the dust of the ways and fields in almost perpetual clouds thrcugh the air.

FLAX CULTURE IN GERMANY.

E. G. Freedman, in a letter to T. C. Peters, Esq., of Darien, N. Y., gives the following account of the culture and preparation of flax in Germany. Mr. F. says, "When traveling in Moravia, Germany, I became interested in a new preparation of flax fiber. In that province flax is reaped when ripe, cut into lengths of some three to five inches, dried, then boiled in ley of potash; then dried in an oven and subjected to the action of a machine like a cotton picker.—The result is a fiber similar to cotton—more valuable. It is mixed with wool and woven into cloth, or woven alone. Sometimes it is rotted in water, dried and picked. Now, with the use of the American reaping machines, cheapening the cost of harvesting, will not the process furnish a very cheap material—taking into the account the value of the oil pressed from the seed?"

In view of the immense quantity of flax that is grown in the United States for the supply of seed for manufacturing purposes, it is a little

singular, with all the scientific and mechanical attainments of the American people, that some economical method has not yet been hit upon to render the flax fiber available for manufacturing purposes. This will prove to be a very easy and simple business when once brought to light. It will add millions of dollars in a most valuable raw material for manufacturing purposes into a great variety of fabrics. The process detailed above may be rendered available to the American manufacturer, but with all the justly boasted American talent the most perfect process should be brought to light. The quantity of flax straw thus allowed annually to go to waste should arouse the inventive powers of the chemist and mechanic and furnish to the world the most beautiful fibrous material for manufacturing purposes yet brought to light. He will be a lucky man who shall make this discovery.

HIGH FARMING.

It is a question with some whether high farming can be made profitable. The term "high farming" embraces all the modern improvements, such as draining, irrigation or liquid manuring, trenching, high feeding, &c., &c. Perhaps the most perfect illustration of high farming is that which is practiced by Mr. Mechi, of England. He has expended immense sums in traversing his fields with miles of pipes, establishing a perfect system of *veins* and *arteries* for the purpose of drainage and underground manuring with liquid manures. All his other operations are upon a corresponding scale of magnificence, and yet he says his improvements in this way have proved profitable. But our object was not particularly to describe what Mr. Mechi has done, but to allude to one of our American farmers, although a native of the British Islands, to which fact he owes much of his success in farming in this country, and to whom the country is largely indebted for many valuable practical examples. We allude to Mr. John Johnston of Geneva, N. Y. In a late number of the "Country Gentleman," in an article he replies to some remarks in a previous number, by Dr. Daniel Lee, of the Agricultural College in Georgia. Mr. Johnston closes his article by saying: "Having to hire all my labor except what I did myself, for the last thirty-six years, and to make the land pay for its first cost, as well as for labor and improvements, if I had not fed highly, (sheep and cattle) I might now have been a town or county charge. It has been high feeding, high manuring, and draining, that has left me something to support me in my old age. Farmers, will you not take counsel?"

The Poultry Yard.

(Written for the Valley Farmer.)

POULTRY RAISING.

BY C. N. BEMENT.

Generally the system of breeding poultry is conducted in the most loose and unscientific manner, and no real dependence can be placed on any other than the pure bred stock. By selecting it, the articles, early maturity, large size and liberal produce, are surely to be depended upon, whereas, by indiscriminately adopting impure stock, there is no security that these will be the result.

Under the loose system of breeding by many it is equally impossible to *keep up* as it is to *establish* a distinctive breed of poultry. To perpetuate the purity of any variety, so that "like produces like," in appearance and properties is of the highest importance—it is, in fact, the ground work—the grand aim of the scientific breeder. There are no errors, or indications of the work of chance in the law and order of the Great Ruler of the Universe, as these apply to either the animal or vegetable kingdoms. The farmer may as well collect a miscellaneous list of seeds, and strew them athwart his soil, in the expectation that an excellent crop of wheat should be produced from them, as the poultry breeder depend on the heterogeneous admixture of mongrel breeds of fowls, to produce improved specimens. A chance specimen to be sure, might be made among them, that might look promising in the same way that one ear of corn might appear among the farmer's produce; but unlike the ear of corn, the "bird of promise" can never be depended on to produce its like.

To blend the characteristics of two separate breeds, so that there will be no undue preponderence of the blood of either in the produce, is a work of great labor and most zealous care.—The process must be carried on with the same degree of exactness, and be accompanied with as much careful calculation, as an astronomer would use to satisfy himself regarding the future appearance of a comet. Many generations of fowls must be operated upon before anything like perfection can be attained. This being the case it is perfectly evident that it becomes imperatively the duty of fowl breeders to apply their care and observation to the preservation of pure stock, as upon that and that alone the profit of their labor depends.

There is just as much necessity of breeding from birds that are good layers as there is in selecting milk cows, those animals are preferred which are bred from good milkers, though in fowls, it does not necessarily follow that their progeny are equally profitable.

There is just as much skill and art in breeding poultry "to a feather," as in breeding a horse to the highest racing or trotting speed, and to our notion quite as useful to the world at large—and in their consequences, vastly less productive of the questionable commodity of "fast men," than the latter pursuit.

Springside, 1858.

Stock Raising Department.

SOUTH DOWN SHEEP.

This excellent breed of sheep, like all other improved breeds of domestic animals is the result of a judicious and well established system of breeding. The stock upon which the improvement has been engrafted was not in its original state superior to that of other breeds inhabiting a similar country. It is supposed that they originated from a variety which was either black, or among which that color considerably predominated, for the tendency now is to run into that color, either in whole or in part, when care is not taken to exclude such, as breeding animals. The ewes are without horns, but occasionally a ram is seen with small horns. It is not yet a hundred years since the first attempt was made to improve this race of sheep. The original is said to have been small sized, and ill shaped, requiring two or three years to reach maturity, and bearing a light fleece.

The late John Ellman, of Glynde, near Lewes, was among the first to attempt to improve this breed of sheep, and he continued his efforts for upwards of fifty years with marked success. The success of these efforts, not only in sheep but in other breeds of domestic animals should afford a sufficient encouragement to farmers in general to exercise their best care and judgment in breeding all kinds of farm stock with a view to constant improvement. Left to nature, or a careless course of breeding, the tendency of all animals is to degenerate. Our most inferior animals and even our barn-yard fowls are not beneath special care in this respect. They all require feed, and much of this feed is wasted when bestowed on a degenerate, lean, voracious class of animals.

The work of improvement begun by Mr. Ellman has been continued to the present day by the Duke of Richmond, Mr. Webb, and others in England. The form and proportions of this breed of sheep may almost now be said to be perfect, and this in all animals is the best criterion of a good constitution, and instead of requiring two or three years to arrive at maturity they attain full growth in half that time.

The name of these sheep is derived from a range of chalky hills called "South Downs." These hills extend near one hundred miles in length, by about five miles in breadth, commencing from the east end of Sussex county, and running westward from Lewes, Shoreham and Arundel, by a continuous elevated chain inland. These hills produce a peculiar, soft and nutritious grass which characterises that region of country. Large tracts of arable land join these hills on both sides; the farms extending from the arable lands below, embracing a portion of the hills, possessing superior advantages to the farmers to provide a supply of artificial food for their flocks in winter, while the "Downs" yield the richest pasture in summer.

So far as we have learned the South Downs have fully sustained their character in this country, affording the most excellent mutton and a valuable fleece.

The extensive ranges of hill lands through Pennsylvania, Virginia Kentucky and Missouri, when once subdued and brought into grass, will afford a most excellent range for this breed of sheep.

It is almost impossible to meet the constantly increasing demand for beef cattle, and the deficiency must be made up with sheep, which afford a nutritious, healthy and for many a more palatable food.

HOVEN IN CATTLE.

Clover is now springing forth luxuriantly and in just the condition to produce hoven in cattle when first turned out to graze upon it. As prevention is better than cure, it is therefore wise on turning cattle for the few first times in the spring into a clover field to regard them with some little care, and all damage from this cause may be avoided. It is more dangerous at first, from the fact that animals having been confined for months to dry food when turned upon a field of tender grass or clover they eat greedily and overload their stomach with the green forage, and if this is done while a heavy dew is on, disease frequently follows, and if relief is not immediately afforded, death often ensues. This malady is simply the result of a speedy fermentation of the green food eaten, generating a large amount of gas, resulting from the warmth of the stomach, aided by the external moisture or dew upon the food when eaten. To avoid this, the animals should not be turned upon the clover until it is perfectly dry, and then be allowed to eat but a few minutes and then turned out. Follow this for a few days and there is generally but little danger afterwards during the season.

Remedy.—A barbarous practice is followed by some, of sticking a knife into the paunch of the animal where that organ lies nearest the side and allow the gas that has been so sudden-

ly produced to escape. A simple and effectual remedy is found in giving the animal an egg shell full of tar. To do this, two men are required to hold the animal's head straight, a third will hold its tongue to the right side; he can easily put the shell and tar down its throat, and in a few minutes relief will usually take place, but a second dose has never been known to fail. After swallowing the tar, the animal should be kept upon a brisk walk about the yard until the gas passes off and gives relief.

Another.—It is also said that a bottle filled with soft soap and milk and emptied down the throat of the animal will afford relief in a few minutes. There are various other remedies employed but these appear to be simple and easy of application.

[Written for the Valley Farmer.]

AN ESSAY
On the Raising and Management of Sheep for Wool and Mutton.

For the productin of wool *and* mutton it is necessary to combine a *large carcass* and *heavy fleece* on a sheep that will *mature early*, and the mutton should also be well flavored.

To secure this kind of a sheep, it will be most economical for the farmer who has a flock of native sheep, to procure a thorough bred long-wooled buck and grade up his flock. This buck can be used two seasons with fifty ewes. Of course, he should not be allowed to serve his own lambs; they should not be bred till they are yearlings past. This should be continued until the flock becomes about seven-eighths long-wool. The best long-wool is either the Cotswold or New Oxfordshire. I prefer the New Oxfordshire, as their fleece is finer and thicker and not quite so long, and the carcass equally good.

If a farmer wishes to engage in this business at once, he had better buy full blood ewes of the above stock. After he has graded them up or purchased full blood ewes, he should then use a thorough bred South Down buck. This will render his flock *hardier, more prolific*, and impart a higher flavor to the mutton, besides, the ewes will be better nurses. To give the flock early maturity, a Leicester buck might be used to advantage. I am aware that this mixed breeding has its objections, yet there is no one breed of sheep that combines all the requisites of a wool and mutton sheep (unless Robert J. Scott, of Ky., has established such a breed) and I very much doubt of its remaining so when once established. Some one of the crosses or infusions will have a predominance towards which the flock will continually tend, unless again checked by judicious crossing. He should first secure a flock of long wooled ewes, and then breed to a South Down buck, because it is a well established law that, in crossing different bloods the female should be selected from the largest breed. If a farmer wishes to breed sheep extensively, he should use the South Down buck more frequently, as they will do better in larger herds and on closer feed than any other mutton sheep, besides, their fleece is thicker, and consequently a better protection against the weather.

The sheep breeder cannot be too particular in his selection of a buck. In the first place, he should be thorough bred. It is poor economy for a breeder who wishes to stamp a certain characteristic on his flock to use a buck that does not possess that characteristic in an undoubted degree. In selecting a long wool buck he should have (comparatively) a fine, thick fleece. Too many look entirely to the length of staple. There cannot be a greater error. Better have the same weight of fleece in a more compact form. Whenever a buck shows his skin in walking or with slight parting with the hand, reject him. I have seen long wooled bucks that took the premium nearly everywhere they went, that could not be given to me to breed from, on account of thinness and coarseness of fleece. The different styles of staple has little or no effect on the price in our market. I learned from a sheep breeder in Saline county Mo., that he had enclosed some Cotswold wool and a sample from an imported French Merino buck to St. Louis and found they would make no difference in price. The buck should also be compact in form. In selecting a South-down buck, he should have the same qualities, having less reference to thickness, and more to the fineness of the fleece. I have seen imported South-down bucks that had a most marked and decided difference in their fleece, and as their wool is inclined to be harsh and coarse, look well to this quality.

It may not be improper here to take a comparative view of the common and improved breeds of sheep, in order that the farmer may see the importance of improving his flock of sheep. The common sheep of our State will not shear on an average 2 3-4 pounds of washed wool per head. Their average live weight will not exceed 80 pounds. Now the long wooled sheep will shear on an average 5 lbs of wool (a low average); I have never had ewes that sheared less, while some will shear 8 and 10, and bucks higher. Their live weight on an average, 140 lbs. Now for the cost of keeping. Many theorists have contended that animals will consume food in proportion to their live weight. This is undoubtedly true on an average, with animals of the same strain and purity of blood. This is all that can be admitted. Any other position would ignore all improvement in our stock. So far as sheep are concerned, facts will sustain the assertion that the long wools require *less* food than our common sheep, or at least, on the same amount of food they will gain more flesh and wool.

Col. Ware, of Virginia, selected 50 four year old wethers from some 300 common sheep, and 50 grade yearling New Oxfordshire wethers, and commenced feeding them in the fall, for mutton. They had the same amount of grain. The common wethers had the best grass lot. The 1st of January he sold the grade wethers

for $10 each, and kept the common wethers till March and sold them for $4,50 each. I nearly ruined my Oxfordshire ewes, the first winter, by allowing them to get too fat. A very fat ewe will seldom bring a live lamb. I now find it necessary to separate the full blood ewes from the flock and feed them less grain. Therefore no sheep breeder can shelter himself behind the plea that though his sheep are small and scrubby they consume proportionately less.—The profits of the two flocks of sheep for one year will stand about thus:

50 common ewes 2 3-4 lbs wool a 30c	$41,10
40 lambs a $1,00 - -	40,00
	81,10
Keeping one year at $1,00, - -	50,00
Profits, - - - -	31,10
50 long wooled ewes, 5 lbs, at 30c	$75,00
40 lambs at $5, - -	200,00
	275,00
Keeping one year at $1, - -	50,00
Profits, - - -	225,00

From this profit should be deducted the interest for one year on the difference of the first cost of the ewes. But aside from the difference in the profits, there is an untold pleasure in rearing such a flock of sheep. With what a charm do they invest the landscape with their majestic forms and their broad, snowy fleeces, giving evidence to the passer-by of thrift and improvement.

SUMMER MANAGEMENT.

In the spring, before they are turned out to fresh grass, they should be tagged by shearing off the wool below the tail and down on the inside of each thigh. Through the summer they should be salted once each week, or what is better, having it under a shelter where they can have access to it at all times.

The time of shearing depends on the season. The danger is in shearing too soon. If there should come a cold storm soon after shearing, shelter the flock. At shearing the lambs should be marked and castrated. It is also very important in grading a flock of sheep, that each cross should be marked differently, so that in selling you can know and dispose of your lowest cross.

After the sheep ticks have had time to transfer themselves from the sheared sheep to the lambs, which they will do in about two weeks, the lambs should be dipped in a strong decoction of tobacco; put them up on some inclined boards and squeeze the ooze out, which will return to the tub without much waste. The nose and mouth should be held and the immersion be complete. This is very important to a flock of sheep and I find it very effectual. If there is any danger of dogs, bell several of your sheep, the more the better. About the first of September the lambs should be separated from the flock and put on good grass. Bucks should be put with flock first of November and removed first December; the lambs will then come in April.

WINTER MANAGEMENT.

The flock in winter should at all times have access to some kind of shelter. This can be readily and cheaply made with rails and straw. The importance consists in having it done for *certainty*, and not so much in the manner. The lambs should be wintered by themselves, and besides hay or fodder should be fed shelled corn in troughs. The ewe flock of highly graded or full bloods, if fed at all with grain, should be very sparingly. If they have had a good summer and fall range, better feed no grain. If the wethers are as high as three-fourths blood, they will do to turn off the winter after they are a year old. The time of selling and manner of feeding will be determined by nearness and means of transportation to market. I last fall saw a lot of Cotswold wethers that had been sold off the grass for $7,50, I think they were two years old. If it can be done without too much inconvenience, rye should be sown in August for the ewes in March and April, especially if near a market where early lambs are an object, in which case they should come as early as the first of March.

H. L. Brown.

Fayette, Howard Co., Mo.

[For the Valley Farmer.]

THE HOG.

Good feeding will, in a great measure, make up any natural deficiency in almost any kind of stock, but to have a good breed as a foundation to build upon is an important consideration.

Experience has proved that the hog which attains the greatest weight in from twelve to eighteen months, makes the best return and largest profit. It will not be necessary in the present instance to discuss the origin and qualities of different breeds. These have generally taken their names from the person (after some years of judicious breeding) introducing them, or they have been called by the name of the county where they took their origin. But after their dissemination in different parts of the country, and especially after *crossing* for some generations, the original type becomes almost extinct, the progeny perhaps still bearing the name. From this fact I deem it unimportant whether a hog be *called* Berkshire, Byfield, Suffolk, &c., provided he possesses the form, size and general appearance requisite to make such an animal as has been spoken of above. In making a selection for profitable feeding take a hog with a long and round carcass, small head, short legs, broad shoulders, full hams and moderate sized bone. My observation has led me to conclude that spotted and dark colored hogs are generally hardier and more thrifty than white ones. Avoid in-and-in breeding. By this course the form may be perfected but the constitution is lost. Sows carry their young nearly four months. They should only be allowed to have two litters a year. One only in the spring another sometime in the fall. By this means we avoid the necessity of extra feeding and attention with sows having pigs in bad weather. In extreme cold weather they eat their pigs. If confined in a pen they will sometimes become dissatisfied with their quarters and eat their young. To prevent this, feed them well

just before farrowing with greasy slop and refuse meat, (this destroys their unnatural appetite.) Let them range freely and choose the place for their bed. Leaves or prairie hay makes the most wholesome litter that hogs can be in. Any kind of straw is bad to produce mange, and lying in stable manure is especially so. This is a most ruinous disease but if taken in time may be cured in the following way.—First wash thoroughly with strong (warm) soap suds. Then rub dry and annoint behind the ears, on the breast and on the inside of the legs with sulphur and grease, (well mixed.) Put a little sulphur occasionally in their slop and keep them out of the rain.

Sows should be well fed when suckling and as soon as the pigs are old enough to drink slop, let them have it freely. In this way they get a good start, which is a considerable item in making a good hog. Castrate pigs when four or five weeks old and spay the sows as soon as they are large enough to handle. The farmer who has plenty of apples will find them quite profitable in giving his fattening hogs a start. The process of fattening should be commenced in the fall as early as convenient, thus taking advantage of time, when the business of feeding is not so disagreeable as in cold weather, and when hogs take on flesh most readily. They will be found to gain most rapidly if confined in close quarters, protected from the weather, and on a plank floor in order to prevent rooting. Of course, large numbers must be treated differently according to circumstances. In feeding large numbers the common practice is to turn a drove into a field of corn, and with smaller ones to gather and throw the corn to them in large quantities, but in my opinion the day is not far distant when agricultural furnaces for cooking food will be in general use. Experiments have proved beyond any reasonable doubt that there is an immense saving, (especially in fattening hogs,) by preparing food for stock in this way. Grinding corn, cooking and feeding in about the same consistence of mush is probable the best mode of preparing food for hogs. Having them well fattened there remains but one other transaction for the farmer, viz: to get a good price for them and hand them over to the executioner. ****

MILK FROM SPAYED COWS---IMPORTANT TO DAIRYMEN.

It is well know to dairymen that the milk of cows is liable to great changes, owing to the condition of the cow previous to and during the period of gestation. Milk taken from a cow while in heat, must be unhealthy and injurious to children and others who partake of it, and it can hardly be less so during the period of gestation. It would seem unnatural to take milk from cows during the more advanced stage of this period, as is often the case. Spaying has been but little practiced in this country, but where it has been adopted it has proved of great value, not only while the cows gave milk, but when they are turned out to fatten. The operation is not a difficult one to a person familiar with the anatomy of the cow, and may be easily learned by any one who will give the subject due attention.

The following facts are given by M. Delamarre proprietor of an extensive milk establishment in Paris :

THE MILK OF SPAYED COWS.

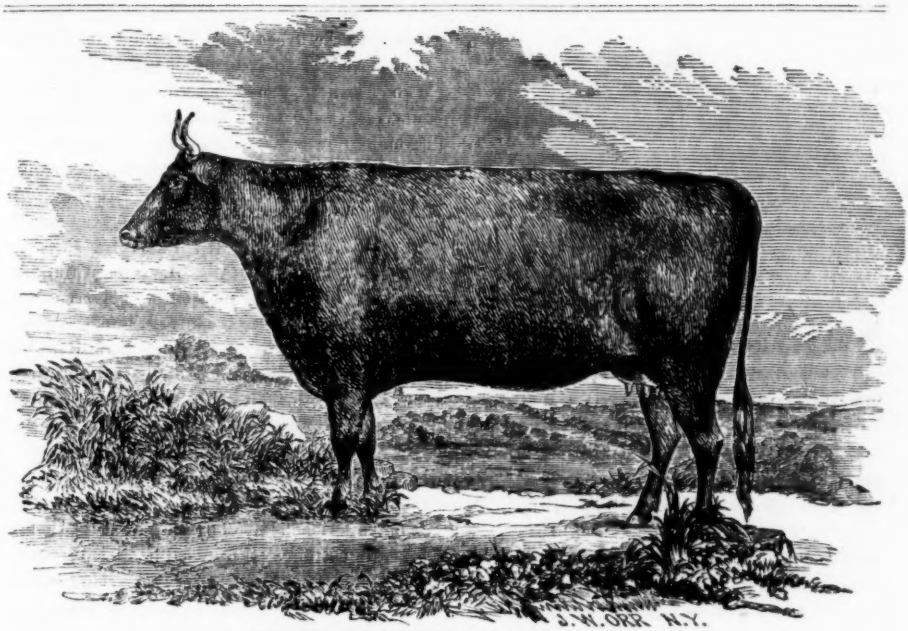
"This milk is produced from cows which after the fifth or sixth gestation, and five or six weeks after calving, undergo an operation which consists in the removal of the ovaries, thus rendering the cows, henceforth, incapable of reproduction.* From this time, as happens to the ox, the animal changes in its nature and its milk, which we have named milk of spayed cows, is free from all perturbations. The spayed cow does not undergo those disturbances arising from being in heat, from gestation, and perturbation, she is free from those causes which produce such evil effects in the quality of the milk.

"In this new condition her milk becomes regulated and, which is important to the farmer, lactation is maintained in full quantity, for a year at least, and is prolonged, diminishing in quantity but increasing in quality, two and even three years when she is not too old, and is properly kept. When lactation has ceased, the cow, which has by a quiet and reposed life become considerably increased in flesh, may be delivered to the butcher in perfect condition, and the meat is superior to that of ordinary cows. By generalizing the spaying of cows, after the fifth or sixth gestation, there would be introduced into common use milk of an irreproachable quality.

"The milk of spayed cows gives more cream than ordinary milk; It is also richer in casein, which constitutes—a fact generally unknown—the most nourishing part of milk—hence the superior quality of the milk. The butter extracted directly from the milk is delicious in taste; it testifies to the amount and richness of the casein it contains. This milk offers precious resources for the artitificial raising of infants; it might be asserted that they will be better nourished: for the nourishment of infants, who give it the preference over other milk, we do not doubt that the milk of spayed cows will be principally used.

"Such is the milk introduced by M. Delamarre at his establishment for consumption."

*The spaying of cows was known in remote antiquity. In modern times the practice dates back about twenty-five years, with the design to increase the quality of milk in cows. In 1830, Mr. Winn, Natchez, Miss., applied it with advantage in the production of milk. Mr. Winn proceeded by the cesarian operation, which is still practised in the U. S., but it presents serious difficulties, resulting occasionally in the death of the animal. In France M. Charlier, Veterinary Surgeon, executes the operation without external incision, and renders the chances of mortality much less.



DEVON COW, DAHLIA, [H. B. 623.]

Bought from George Turner. Calved January, 1852. Sire, Earl of Exeter, [38.] Dam, July Flower, [805.]—Imported, August, 1854, by J. A. Taintor, for J. Howard McHenry, of Baltimore, Md.

DEVON CATTLE.

We here present the portrait of a Devon cow. This breed of cattle had its origin in the north of Devonshire, England. The characteristics which mark this valuable breed have remained the same from the earliest records, notwithstanding they have been bred with no special care until within a comparatively recent period. They are, no doubt, indebted to the nature of the soil and climate for their superior character.

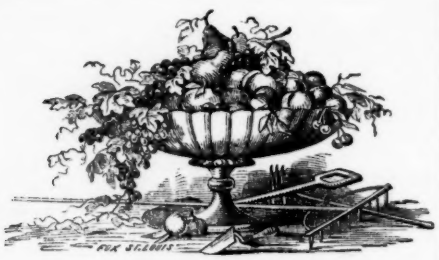
It is only within the last one hundred and fifty years that any systematic efforts have been made to improve the breeds of cattle in England, and it is hardly fifty years since the first attempts were made to this end with the Devons. The character of this breed seems to be more permanently stamped than any other, and as Youatt very justly remarks, "they have been brought to such a degree of perfection, that, take them all in all, they would suffer from an inter-mixture with any other breed." The Devon ox attains to a much larger size than the bull, and the cows, comparatively, are much smaller than the bulls.

For the yoke the Devons have no superior.—For plowing where the ground is not too heavy they are said to be unrivalled. They have a quickness of action which no other breed can equal, and few horses exceed. They have a docility and goodness of temper, and stoutness and honesty of work, to which many horses cannot pretend. For strength, at the plow they are not equal to the horse. But four steers are said to accomplish as much work attached to the plow as three horses, while two ordinary oxen are usually rated equal in strength to one horse. But with this breed as with all others much depends upon their training. We have seen a team of several yoke of these cattle so perfectly trained that they would obey every motion and command of the driver with the readiness and precision of a plattoon of well drilled soldiers. After serving in the yoke a few years, which, under proper treatment, adds much to their size, and then fed for beef, they take on flesh at an easy and rapid rate.

For the dairy, the Devons are not generally considered equal to some other breeds. The milk is good and yields more than an average proportion of cream and butter, but generally it is deficient in quantity. The cows are good nurses and the calves thrive with great rapidity.

There is a wide range of country in the United States admirably adapted to this breed of cattle, where the climate and pasture are not so well suited to the Durham. The Devon being a hardier race, will thrive better in a less genial climate and upon shorter pastures than the Short Horns.

There are now in the United States some as fine specimens of this breed of cattle as can be found in the most favored portions of England.



Horticultural Department.

PROPAGATION OF APPLE TREES---THE SEED, STOCK AND GRAFT.

It is well known to fruit growers of the present day, that apple trees, in certain sections, are not as healthy, vigorous and long lived as they were half a century or more ago. It has not been ascertained to what cause this deterioration should be attributed, whether from a modification of climate, seeds from which the stocks are produced, or the mode and manner of grafting, or to some more mysterious cause. Some writers have contended that root grafted trees are not as long-lived and productive as those grafted or budded upon a perfect standard stock. Others again, are of the opinion that deterioration has arisen from the indiscriminate manner of procuring seeds and growing and using stocks —that when seeds are procured from a cider mill, where fifty or more varieties of apples are all ground up together, and the stocks that are raised from these seeds used for grafts of every variety, the indiscriminate manner of inserting grafts of every variety into these stocks is something allied to breeding in-and-in, and that the trees thus grown will be as various in their character, vigor and durability as the number of varieties of stocks upon which they are grafted.

Now how far this reasoning may be correct we will not attempt to decide. We know that apple trees, in some sections of the country, even when well cared for, do not flourish and grow to the size they once did in the same regions. We know, too, that numerous varieties of our best winter apples are liable to various diseases, such as bitter rot, mould or rust and other maladies, which cause them to fall prematurely, and render them no longer profitable to grow. What is true of the apple is also the case with the peach, though probably in a much greater degree. Fifty years ago, or even less, peaches were grown in the greatest perfection, and the trees lived and were healthy and productive for forty years or more, where now, if they can be grown at all, the trees hardly survive to bear more than two or three crops. From our own observation this would seem to be more the effect of climate than of any other cause. Whether this change of climate results from the rapid filling up of the country and the substitution of cultivated fields for the dense forests, remains a matter of speculation. We know the facts to which we have referred exist, the causes are yet to be solved, nor do we expect to shed any great light upon the subject, but so far as the propagation of apples is concerned we propose to throw out a few hints, the result of long experience and close observation in propagating this kind of fruit.

The effect of grafting upon a large number of promiscuous varieties of stocks we have but little or no experience in. The kind of stock that we have almost universally used has been from the seed of Hughes' crab. Every observing nursery man will see that there is a greater or less affinity between some varieties of stock and the different varieties of grafts inserted into them. It is the natural habit of some varieties in the same kind of stock to make a much more vigorous growth than those of other varieties, and as we have before had occasion to say, these and other characteristics of growth are so marked that an experienced nurseryman needs no other guide to enable him to select many of the leading sorts, with as much certainty as he can distinguish so many familiar faces in a crowd of men. But the most marked difference is between certain varieties in their assimilation with the stock.—Take for instance the Swaar and Harrison, grafted upon the crab stock, the former, ugly in habit at best, at three years from the graft will have made a tolerable growth of top while the root has increased proportionally but little, while the Harrison, with no greater growth of top, has added to the root, out of all proportion, compared with other varieties. This difference is more or less marked between various other kinds. Now we are of the opinion that upon careful observation and experience it would be found that there are certain kinds of stocks so well adapted to certain favorite varieties of apples that if the two were united it would add materially to the health and longevity of the tree and its healthy fruitfulness. These are matters that have never been carefully observed and the results ascertained, but nevertheless they are not matters beneath the attention of the careful nurseryman, who would learn the

mysterious laws that govern this kind of vegetation.

In some parts of the country the Harrison apple is grown to a great extent; it is the variety from which the celebrated Newark cider is made, but now it is mostly manufactured into *Champagne wine* of the choicest brands. From the extraordinary hardiness of this tree and the vigorous root that it makes on any stock upon which we have seen it grafted, we have long been of the opinion that it would make the best stock for nurserymen that can be procured. A trial of this root with the different varieties of apples, as well as with many other hardy, strong growing kinds for stocks with a view to note the difference in their assimilation and growth, might lead to valuable results and go far to solve the causes of the depreciation of certain varieties so fatally marked.

We hope that the hints here thrown out will induce some careful observer to make experiments to test the value of the theory we have advanced.

It is to be regretted that the people of the United States are in such "haste to be rich," that matters of science are so little regarded. The celebrated Van Mons made it a pleasure, and we have no doubt regarded it an honor, to spend a life time, and sometimes laboring under the most discouraging circumstances, in the study and propagation of a single class of fruits.

We need a thousand such as Van Mons in our country to investigate and make known to the world the hidden mysteries of nature.

AN AMATEUR'S VIEW ON THE PROPAGATION OF NEW VARIETIES OF FRUIT.

In a late number of the *Horticulturist*, W. Creed, of Rochester, N. Y., advances a new idea which may prove of great benefit to those who are engaged in the most praiseworthy effort to produce new and improved varieties of fruit, either from natural or artificial fertilization.—An experienced nurseryman can distinguish many varieties of the apple, pear, and other fruit trees, by some peculiar characteristics of leaf, branch, color of bark or habit of growth, as well as he can distinguish one man from another by his peculiar features, and in many of the varieties of apples, and pears particularly, we can determine their identity (and they may mostly all be learned) by any one of these features, and with them all combined the mere novice may soon learn to distinguish them.

In regard to these peculiar characteristics the writer assumes that "the most important contrast in these distinguishing points, so far as the propagation of new varieties is concerned, is in the seeds themselves; take up your knife and half *quarter* a pear from each of the above varieties named. Compare the seeds and the contrast will be as equally convincing as in the fruit, foliage, &c. In reference to the seeds, however, we may expect that ninety-nine in a hundred in any particular variety closely resemble each other in shape, form, &c., peculiar to that variety, and producing *seedlings* exhibiting *a close affinity to each other*, and, therefore, not likely to result satisfactorily to the experimenter; but as soon as we find a marked difference in the *formation of a single seed* in any select variety, *that seed* should be chosen by the amateur, for in *that seed* (which apparently is one of nature's freaks) is the symbol (in embryo of a new variety, whether "good," "very good," or "best," will be left for providence to work out, man also doing his share in the matter. Another part of the success, it is evident, will depend upon the choice of the best varieties, from which to select one of these 'freaks,' or 'sports,' which are more or less traceable throughout the whole classification of vegetable physiology, and intended by an all-wise Being to excite the wonder and admiration of man, prompting him to energetic action, and to study out the workings of nature in all its beauty and complicity."

Reasoning from analogy, there seems to be some plausibility in the theory suggested. It is one of the established laws of nature that like nearly begets like. If we examine the seeds of any specimen of a particular variety of pear or apple, we discover a striking similarity of form and color in them, which renders the conclusion a safe one that the little filaments in the blossom, connected with the embryo of each seed, and which constitute the pistils or female organs of the blossom, have been fertilized with pollen of the same variety, but in an orchard containing many kinds of the same fruit, many of these different varieties blossom at the same time, and the pollen is cast by the wind, or carried by insects from one tree to another; this coming in contact with a single filament or female organ of a fruit of a different variety, and some peculiarity of the male parent is at once stamped upon the seed in its embryotic state, and this peculiarity is extended to the future tree and fruit, producing a new variety, partaking in part of the combined characteristics of both parents more or less modified. This is an

interesting question to the amateur and experimenter, in producing new varieties of fruit, and one, the truth of which, may be easily tested by an experiment in artificial impregnation. If the seeds produced in this manner differ materially from those impregnated on the same tree, in the natural way, it is safe to conclude that the difference was stamped upon them by the male parent from another variety.

It is well known to intelligent fruit growers that there are certain varieties of the apple, and of the peach particularly, that more surely produce their own kinds from seed than other varieties do. This is either owing to the period of blossoming, earlier or later than the trees of the same class in general, which renders the blossoms less liable to be fertilized from pollen from other trees, or to some peculiarity of the blossoms of the variety that is likely to prevent the contact of the fertilizing powder from other kinds.

We give these various hints upon an interesting subject that experimenters may have them in mind, with the hope that some light may be cast upon the subject.

We have arrived but at the threshold of investigation and scientific progress, and every new idea that is likely to aid investigation and promote improvement is worthy of attention.

[Written for the Valley Farmer.]

CULTIVATION OF LOCUST FOR TIMBER.

Having had much experience in the cultivation of the black or yellow locust, I am enabled to give the readers of the *Valley Farmer* the best method of growing Locust timber. The only preparation that is required to make the seed sprout is to pour boiling water on them and let the water remain over the seed for eight or ten days before planting, or until they begin to swell. Have the ground prepared free of clods by the harrow and roller. Check the ground off four feet each way, and drop five or six seeds in every third row, the remaining rows in corn.—Great care should be taken in cultivating the young locust plants the first season; they are exceedingly brittle and tender when they first come up; the rolling of a clod will often break them off, hence great care should be used in preparing the soil and early culture. The second year they will require but little culture.

The field in which the locust is planted must be cultivated in corn three years; by that time the trees will be too large to plant corn amongst but should be sown one year in small grain and fed down and the land sowed in grass, clover or timothy. The trees will need no further attention. Sheep may injure them in winter if allowed to run amongst them. The young trees will not require any thinning as they will thin themselves better than the axman. In ten years they will make posts for plank fences and in twenty years twenty acres will fence two hundred acres of land with a rail that will last fifty years, which I know from trial. On a farm in Kentucky rails that were split in 1802 were good in 1850, at the time I gave up the farm.

Locust trees transplanted rarely do well.—The borer is their great enemy, but when raised from the seed, and in dense thickets the borer is not destructive on the young trees. The locust will not succeed on low or wet land; the proper soil is a thin, rich loam, with a stiff, clay sub soil. Those who wish to raise locust forests, and will follow these directions, will surely succeed and be amply remunerated. S.

St. Louis County, Mo.

PRESERVING GRAPES.

Charles Campbell, of Aurora, Cayuga county, N. Y. communicates to the *American Agriculturist* the following method of preserving grapes:

"When they are fully ripe, suspend a basket by a strap or cord passed around the neck, thereby giving liberty to both hands for picking; with one hand hold the cluster, and with the other cut it from the vine; remove from the clusters all unripe or decayed fruit, and depose it them in the basket until it is filled. (I use a market basket that will hold about a half bushel.) Carry the grapes thus gathered to the place for packing. I use boxes about two feet square by six inches deep in the clear, with covers made to shut tight. In packing, lay a newspaper on the bottom of the box, then a layer of grapes then a paper and second layer of grapes, which when closely packed, usually fills the box; set it in some dry and airy place, with the cover off and let the box remain open for ten days, or until the sweating process is passed: then close the box and set it in the fruit-room, cellar, or garret, any place where they will not freeze, or which is not extremely damp.

"Grapes, packed as above directed, will open at any time during the winter or spring following as fresh as when packed. The only secret or mystery is, that the moisture which spoils the fruit when packed in saw-dust and other absorbents, passes off during the ten days that the box remains open, instead of being absorbed, and ultimately molds and spoils them. So perfect has been my success that I have more confidence in the preservation of the grape than any other fruit. I use shallow boxes for packing grapes, that the moisture may more readily escape, and that the first layer in the bottom may not be crushed by the weight above."

[For the Valley Farmer.]

TRIMMING FRUIT AND SHADE TREES.

Trimming, properly is an art, based on physical knowledge and geometrical calculation.—Among a hundred trimmers you will hardly find one who has the most distant knowledge of the business. The truth is, a large majority of those who trim, do their work entirely at random, and therefore do infinitely more harm than good. There are trimmers going round who charge two dollars a day, and do you harm at the rate of a hundred dollars per day's work. I do confess that it is a most difficult task to trim an orchard forty or fifty years old, never before trimmed, or much worse, cut and slashed occasionlly during that time, by inexperienced hands.

There is not the smallest limb or branch I touch before having reasoned with myself, for what purpose I should lose it. If I am not able to do so upon a general systematic plan, long before matured by study and approved by experience, I am entirely unfit to touch a single limb.

Beginning with the planting of an orchard, it is an easy matter to raise symmetrical trees, of an almost uniform appearance. Set out none but well stocked, stout trees, of uniform size and age, and aim at trimming them at once to the basket form, open in the centre to let air and sun into them, and wide enough in time to permit a man to move conveniently inside to pick the fruit by hand. Have the branches set all around the centre at uniform distances, and far enough apart to give a free circulation of air to every limb. Never allow one branch to impede or grow across another, and by all means establish a perfect equilibrium to the whole tree, and let every limb have its support, as much as the natural form of the variety allows, direct upon the centre stem; the further the branch is horizontally removed from it, the more liable it is to break down by the wind and load of fruit.

Symmetry is the great object to be obtained, as well for beauty as utility. Keep the trunk of the tree perfectly straight and smooth up to four feet from the ground, thence encourage the branches to start, which in a few years will secure sufficient shade to the stem, which is very important in sheltering it against cold, heat and wet, and low enough to get at the fruit with ease. Having treated a young tree thus for several years, there will be but little trimming found necessary in after life, and will spare the tree the many ghastly wounds of butchering trimmers. Make every cut smooth and close to the stem with a sharp saw and knife.

An old orchard should be trimmed to conform to all the above rules, but it will take several years before you can obtain a desirable result. You must lop off by degrees, and allow a new growth, before you trim again, if necessary. Do no sudden violence to the trees. A leaning tree should have all branches cut-in outside of the circumferential balance line, and the opposite branches fostered to grow beyond it, in order to produce a mechanical weight to draw the tree in time, straight again. The greatest injury results from trees leaning eastwardly, as the hot evening sun thus strikes upon the naked stem perpendicularly, killing the bark dead; to aggravate the matter, water, snow and ice lodge upon an inclining tree, causing the effects of alternate freezing and thawing to be very severe, sometimes to a fatal degree. Hence, you find the bark of most all such trees seriously injured. They should be wrapped up with straw or corn stalks, or nail a board on the south-west side of the trunk, to keep off the sun until you foster branches of sufficient length to protect it. Trimming may be done before the sap moves, about the middle of February, or (which is perhaps the best time in the year) from the 25th of June till the middle of July—always provided, that such trimming is done with entire knowledge and caution. Have a care not only to shelter the trunk, but also every part of the branches outwardly with its own foliage. The habit of the same kinds of fruit trees are very similar in their growth, but differ remarkably among varieties, and should be treated accordingly, with judgment, so as to do no violence to their natural shape. Where the habit of a tree is straight and upright, leave a central top, trimmed above the trunk about three feet smooth, then foster a fine head above the surrounding branches, to produce a handsome form.

A properly trimmed orchard should consist of a line of well-balanced concentric circles, the trunk standing truly perpendicular, with space enough between each circle for sufficient sun and free passage of the atmosphere. Pear trees should be trimmed to branch out from the very bottom, whether quince grafted or standard, and never lop off any but straggling branches to within their own legitimate circle. Shade and slow growth greatly protect against blight. Cherry trees should also be trimmed low, and with great caution. Peach trees should be trimmed as perfect round baskets from the bottom up, and not higher than seven feet, and all young shoots shortened-in, to form a handsome globular tree, which, so raised will never break down and permit its fruit to be picked on the ground. Hedge-shears may be employed in trimming peach trees without any injury, and give them any form you fancy.

You may also raise the most beautiful forms of the various shade trees. Linden, buckeye, mulberry, horsechesnut, wild cherry, catalpa, weeping willow, and many other fine trees, take very easily any form you choose to give them, particularly the spreading, umbrella form, so pleasing to the eye, and so complete for shade and protection against winds. Between them you may raise tall maples, pines, sycamores, elms and cedars, to produce a most glorious and gratifying effect in the varieties of foliage and habits of form—a delightful play ground for children, and a paradise of a place for all the airy tribe of songsters to breed and sing, and clean your orchards and gardens of all noxious insects. Who would delay planting?

EMIL MALLINCKRODT.

St. Louis County, Mo.

The Vegetable Garden.

[Written for the Valley Farmer.]

GARDENING OPERATIONS FOR MAY.

BY C. SANDERS.

Flowery May has come, and with it its labors and its rewards—the latter in the gratification and delights afforded the senses. Incense breathing May! Who does not delight in her return, with her soft, blue eye, and her mild but radiant countenance? She comes like an angel of light among men. Verdure and Fruition start into new life at her approach.

She scatters in her path the sweetest flowers of nature, and everywhere breathes fragrance and joyousness. Woodland and field are bespangled with nature's own beautiful flowers. All the earth is now one vast flower garden.—The trees have re-robed themselves in their mantles of green, and the grass has spread out its verdant carpet to tempt the lover of nature to tread its velvety surface, and admire the wild flowers at his feet.

But in what state is your own flower garden at home? That should not be neglected. Remember the object of the florist is to collect plants from every country and clime, to bring them together and cultivate them side by side. All those plants which excel in beauty of coloring, in flower or foliage or in fragrance, are selected and cultivated with assiduous care, and improved and beautified by the cultivator's art. Thus while in nature we find only those flowers which are indigenous to our locality, mostly a limited number of species, though in large quantities of some kinds, in the flower garden we find natives of the four quarters of the globe growing and blooming together as if in rivalry with each other. Let us see what should be done to keep up the gaiety of the flower garden, (for this should be attended to now.) The Spring flowering bulbs will have passed away, except the rich and gaudy tulip, and this month most of the perennials will be in their beauty. When these have disappeared there would be a comparative blank without the annuals and bedding flowers. Attend to getting some of these then we say. Sow in your border the fragrant Mignionette, the Drummond, Phlox, Escholtzia, Careopsis, Portulacca, Lupines, Balsam, Petunia, Scabious, Candy-Tuft, &c., &c. Go to the nearest florist and purchase a few dozen Verbenas of different colors and shades, half a dozen scarlet Geraniums, as many Heliotropes and Ageratums, Salvia, Splendens, and Salvia Patens, a few rose, nutmeg, apple, and lemon scented Geraniums, Fever-few, Lantana, Nerembergia, Gracilis and Philicaulis, lemon scented Verbena, a few dozen Dahlias, &c. Many others might be added. But these with roses, honeysuckles, &c., will furnish you flowers in abundance till frost comes and turns all into one common ruin.

We need not repeat that neatness and cleanliness ase of main importanceto the well-being and appearance of the well-kept flower garden. Let no weeds appear. Keep the ground well stirred and all plants that require it, tie up neatly to stakes. Keep the edges of the beds and borders well defined, the walks clean and neat and the grass as short as circumstances will allow. The hoeing and weeding will apply to the shrubbery plantations as well.

THE KITCHEN GARDEN.

The earliest peas should have earth drawn up to their stems on each side of the row previous to sticking. A last crop of these may be sown early this month. Keep the hoe going among the early crops of beets, carrots, radish, lettuce, &c., and thin out as soon as they get into rough leaf.

In order to have them fresh and tender successive crops of the following should be sown: radish, lettuce, beets, beans, &c. Cabbage for fall and winter use may be sown the first week; the flat dutch and drumhead; also at same time a few cauliflower and brocoli, for fall heading. The purple cape brocoli we recommend especially for this purpose. Celery should be pricked out three or four inches apart in a soil composed of leafy, fibrous materials, watered and shaded a few days, till they take hold. Hills may be prepared and cucumbers, squash and melons may be planted early this month. After which plant Lima beans, second crop of corn, snap beans and so on. Look out for the striped bug. Killing him outright we have found to be the only sure method. For squash, melons, &c., we have used with good advantage, four bricks set on edge and a pane of glass laid on them, which helps to forward the plant and effectually keeps off the striped bug.

Tomatoes, egg plants, and peppers, after being well hardened off, may be planted out from the first to the middle of the month. Soak the soil in which they stand well, and remove them with as much soil as possible. Watch the signs of the weather and do not trust them out too soon, unless you have a reserve of plants.

The weeds will severely tax the patience and the energies of the gardener now, but he should resolve that they should be subdued, and never let them rest while one remains. The perennial weeds, as dock, thistle, &c., should be removed root and branch, in any spare time in winter, when the ground is open, but the annual weeds which come up by thousands and tens of thousands, in spring and summer, must be fought now. Attack them while they are young. A hundred can be destroyed now as easily as a dozen later in the season. The Dutch or scuffle hoe is a good instrument in a garden, as it cuts them off clean, and turns them up to the sun to dry and perish without treading and sticking their ends in to grow again, as with the draw hoe. In the field the cultivator must be used for the same purpose.

Let it always be borne in mind that every weed that is allowed to grow is robbing your plants of their own legitimate food, as well as obstructing the circulation of light and air that are necessary to the full and perfect developement of the leaves and stems of the cultivated plant and that whether the crop is produced above or below ground, the yield will be

proportionate to the good or ill growth and perfect maturation of the stem and leaf and flower. And if possible never let a weed go to seed in your garden, as it will double and triple your work next season, in destroying its progeny, for weeds multiply and increase at a fearful rate, if left unmolested, and the seeds of many kinds are scattered far and wide by the winds. Prevention as much as possible is better than cure in this case.

THE FRUIT GARDEN.

The planting being over for the season, the principal work in this department will be forking the ground, hoeing to keep down weeds, &c. Mulching round the roots of gooseberry and currant bushes is a practice that cannot be overestimated. Almost any refuse litter that does not contain seeds of weeds will answer this purpose; short, dry grass, half decayed leaves, littery manure, or whatever is at hand that comes near these, may be used. There are but few things that will not be benefitted by it.—The best material, we think, for mulching strawberries, is the short grass from the lawn, laid along the rows, between the plants. It keeps the fruit clean and serves to retain the moisture near the surface. Strawberries are fond of moisture, and if supplied abundantly during the swelling of the fruit, it will be much larger in consequence.

We will not close these few hints without saying that something may be done in the way of summer pruning. Yes, much may be done in the formation of the shape and form the tree is to assume, and that summer is the time to prune, *we are convinced.* To "head back" or "shorten-in" a newly planted tree seems only rational and necessary to restore the balance between the top and roots, which the latter have necessarily lost in removal.

But with a healthy, established tree, where the equilibrium is preserved as we may assume it to be, to severely winter prune, is to throw the balance in favor of the roots, and destroy that equality which ought to exist. To cut away is a positive waste, as all such wood ought to be and could be converted into rightly placed branches, fruit spurs, and bearing wood.

It is perhaps too early yet to commence the "pinching" process, but the pruning we alluded to, is disbudding. The amateur and man of leisure who has his pet trees, might easily go over them and disbud so as to leave no shoots to grow but what will actually be wanted, either to fill their proper place in the formation of the head or to be converted into fruit spurs. The practiced eye can easily detect where a bud is started that a branch will not be wanted, and others may be left that will be wanted to fill up an uneven side, an inside bud to help fill a vacancy in the middle, and an outside one for the spreading and elongation of the tree. All lateral branches where they are too thick and that have to be cut away in winter, may just as well be removed in spring by disbudding, and the nourishment and food they would have taken, may go to enlarge and distend useful branches. We shall have something to say on the "pinching" process in its proper season.

St. Louis Fruit Garden.

(Written for the Valley Farmer.)

BEDDING OUT PLANTS.

BY C. SANDERS.

Probably some of your readers, when they have seen the above term used in gardening advice, have been somewhat puzzled to know what kind of plants it has reference to. We will endeavor to explain. The term is of modern origin, as is the practice which it belongs to, and is used to designate all plants that are bedded or planted out for the single season. They are mostly tender or green house plants, that have to be taken up in the fall and kept in a green house or window, and propagated afresh every year, as they will not stand out during winter.

They are selected for their brilliancy and variety of color, and for their constant blooming properties. For unlike the perennials, or common border flowers, which bloom only once during the season, or the annuals, whose duration of blooming is short, (with few exceptions) the bedding flower commences when it is set out and continues blooming more or less till cut off by frost.

In the geometric flower garden, which consists of a number of small beds, arranged in a regular geometrical form, these plants are used with a single variety or color in each bed, and so arranged in height and color as to contrast and blend in a variety of pleasing and harmonious forms. This is called the massing system, and when well arranged and the plants in full bloom, has a most dazzling and brilliant effect. Beds of a single color also look well on a lawn. The scarlet Verbena for example, or the white or blue. The surrounding green grass, setting off the colors in a manner not surpassed by the costliest gem in its richest setting. But bedding plants may be planted any where with excellent effect, in the mixed borders, along near the edges of the walk, only give them the choicest spots, a good, clean soil, and plenty of room and sun, and they will reward you by their beauty and fragrance all summer long.

First on the list of these plants comes the *Verbena*, capable of itself, of making quite a flower garden or boquet. A low, branching, trailing plant, constant bloomer with large heads of showey flowers, of an endless variety of color, from the brilliant scarlet to pure white, then to blue, and all the intermediate shades and tints. A single plant, of several dozen varieties may be planted in one bed with good effect, only it must be a large one, as they will

meet and cover the bed at six feet apart. Next comes the scarlet Geranium, with several varieties of shade in color, and habit in foliage.—The Heliotrope, with its modest, yet pretty flowers, and its peculiarly, delicious fragrance, is universally admired.

Below we give a list of desirable and beautiful bedding plants, and will here say that the Verbena, Fever-few, Nerembergia and some others, are less tender and will stand a few degrees of frost. These may be planted out in this latitude the first week in this month, while the Salvia, Heliotrope, &c., being more tender must be left till towards the middle or end.

Planting.—When received from the florist they will be in pots most likely. Loosen up the ground with fork or spade. Turn the pot up with your fingers across the ball of earth, tap the rim of the pot gently on a board or spade handle, or whatever is at hand, and the plant, earth and all, will come out entire in your hand; make a hole in the ground with the trowel or your hand; place the plant in it, a little below the surface, and press the soil closely and tolerably firm all around the ball; give a gentle soaking of water and the work is done. Stir the soil about them occasionally; keep down weeds, and if the weather is dry, water them well twice a week.

SELECT LIST OF CHOICE BEDDING PLANTS.

Verbenas.—There are several hundred named varieties of this beautiful flower, many of them have only a local habitation and a name, while others are standard and national varieties, as the scarlet Defiance, for example, which has maintained its ground for nine or ten years, and is probably to be found all over the world, wherever the Verbena is cultivated.

The list below are mostly varieties of that nature, selected without regard to age or newness, but with regard to merit. I omit separate descriptions of color, as it would take too much room.

Scarlet Crimson and their shades.—Defiance, Orb of Day, Fanny Fern, (Sayers,) Robusta, Brilliant de Vaise, Lord Raglan, Lord of the Isles, Gen'l. Scott, King of Scarlets, Phenomena, Chauvierii and Etna.

Blue Purple and Shades.—Heroine, Mrs. Mills, Mrs. Reid, Mazeppa, Purple, Perfection and Purple King.

White.—Thalia, Fair American, White Cluster, Miss Hensler, Snowflake, and Snowball.

Striped and Varigated.—Striped Eclipse, Iphigene, Macrantha, Kurtz Defiance, Madame Lemoionier, Sarah, Imperatrice, Elizabeth, (a gem of the first water,) Powhattan, Madam Gourney, Reine de Jour, Madam Clowett and Painted Lady.

Scarlet Geraniums.—Tom Thumb, Defiance, Cerise Unique, Lucia Rosea, Princess Royal and Cottage Maid.

Heliotropes.—Voltairianum, Corymbosum, Souveneir de Leige and Beauty of the Boudoir.

Petunias.—King of Crimsons, Vanguard, A. J. Downing, Harmonica, Sultan and Model.

The following article was prepared for last month, but was unavoidably crowded out:

CULTURE OF ANNUAL FLOWERS.

BY C. SANDERS.

The list of annual flowers is quite a long one. Many of them are brilliant and showy but short-lived; others are not so striking in appearance as to entitle them to be general favorites; some are of straggling and weak habit.—In a word a really desirable and popular list of annuals would comprise but a few dozen. A few only are adapted for massing, they not remaining in bloom long enough. Of these, however, the Phlox Drummondi, Portulacca, Rocket, Larkspur and Petunia hold the first rank.—But for mixed borders, and for general purposes where flowers are cultivated and admired a select list of annuals are indispensable.

It is not pretended that this list includes all that are select and beautiful, but is designed to aid the novice in making a selection of such as it is believed will give general satisfaction A single plant in a place of the following will be sufficient. Balsam, Aster, Coxcomb, Gomphrena, Marvel of Peru, and Marigold. The others may be in clusters of three to six.

Culture.—If your bed and border has not been recently dug up, with a small spade or hand fork, loosen up the soil on the spot the seed is to be sown; break it up well and make it fine. Then make a little depression about the size of a small plate and scatter the seed thinly over it and cover with a little fine soil from the hand; place a little stick down with the name attached. After the plants are out in rough leaf thin them out so as to leave but from three to six. Tie them up neatly to stakes as they advance in growth.

COMMON NAME.	COLOR.
China Astor	Various.
Sweet Alyssum	White
Lady Slipper,	Various,
Tassel Flower,	Scarlet,
Painted Coreopsis,	Yellow and red,
Golden do	Yellow,
Coxcomb,	Red and Yellow varieties
Rocket Larkspur,	Various,
China Pink	Various,
Escholtzia Crocea	Orange,
Batchelors button	Purple and White
Candy Tuft	do do
Cypress Vine	Red,
Sweet Pea	Various
Maurandia,	Blue
Thumbergia,	Orange White
Ten week stock,	Various
Sensitive plant,	Curious Pink
Marvel of Peru,	Various
Petunia,	Purple, White, &c.,
Drummond's Phlox,	Many Colors
Portulacca	Crim. Scar. White, Yel.
Mignionette,	Very Fragrant,
Morning Bride,	Purple and White,
French Marigold,	Various,
African Marigold,	Various,
Immortelle,	Yellow, White, &c.,
Zinnia Elegans,	Scarlet, Red, &c.,

The Apiary.

[Written for the Valley Farmer.]

BEES---RAISING QUEENS.

BY M. QUINBY, Author of
"Mysteries of Bee Keeping Explained."

There are a great many bee keepers who have never seen a queen bee; some even, who will not acknowledge that such a thing exists. But as their faith, or want of faith will not alter the facts, I will detail a very simple process for the benefit of those who may wish to try the experiment whereby can be witnessed some of the most interesting phenomena of natural history, realizing the remarkable extent to which the instinct of the bee will adapt means to ends. It will afford much interest to the naturalist and convince the skeptical in these matters.

To prepare for the experiment, take a common box hive, make two or three inch holes, in a line, close together, through its top, and it is ready. Next, make a box 4 inches square and 1 3-4 inches thick, with glass sides. To do this get out four pieces of board 1 3-4 inches wide and 4 inches long make some inch holes through one piece to match those in the top of the hive, nail these together at the corners. Two pieces of glass 4 inches square will make the sides. These can be held in their places by triangular pieces of tin. A close wood box as a cover to keep the east one dark, and some pieces of woven wire to go over the entrance, to confine the bees and admit air, completes the apparatus.

Some time in the beginning of June, the swarming season, is a good time to operate. Obtain about two quarts of bees, of course without a queen; they can easily be taken from a hive when they cluster out thickly; enclose them, giving them honey and water or sugar desolved with water; let them stand in a dark, cool place. In six or eight hours go to a thrifty stock that has not cast a swarm the present season, a new swarm, or one that is not quite full and is making new comb is best, because you are sure of finding what you want near the ends or bottom; blow under it some tobacco smoke, turn the hive over; with more smoke drive the bees away from the ends of the combs; with a knife cut cut a piece of worker cells three or four inches square. To be *right* it must contain either eggs or very *young larvæ*. Take off one side of the glass box and put it in in an upright position and replace the glass. Now put it on the hive containing the imprisoned bees, and let them up though the holes into it. In about 48 hours they may be let out. Probably several queens will be reared; these cells are easily counted through the glass; they usually raise half a dozen or more when only one is needed. In about twelve days some one of them will mature, bite off the end of the cell and emerge. It is important to ascertain *this* event as near as possible because much that is particularly interesting depends on observations made about this time. I could predict with tolerable certainty that the first queen that matures will make it her business to rid herself of competitors—she will not wait till they mature and are able to take an equal chance for life and flower with herself, but will take advantage of their helpless condition being now helpless in the cells. She is so eager to get rid of all rivals that, apparently, she dare not wait one moment. Before she gets her natural colors, while her shade resembles a plant raised in the dark, she is engaged in the horrid act of murdering her sisters! If quick and spiteful movements are any indications of anger or intense hatred, it may be seen here. A hole is made in the side of the cell, always exactly opposite the abdomen of the fated queen; as soon as large enough to reach the hated rival through it the fatal sting is given, finishing her victim. The workers enlarge the opening and drag out the now dead queen.

These, or similar things take place in nearly every swarming hive of bees annually, but there is no way that I have found to witness it so satisfactorily as the method here described.

BEES WORKING ON TREES.—BEVAN says that bees will not work when fully exposed. I know to the contrary from my own observation; but I did not know that they ever chose to dispense with shelter, till I came across the following:

"Our road (in the Neilgherry hills took us through a beautiful dell, where we noticed on a single tree some seven or eight honey combs hanging from its boughs in semi-circular masses, each not less than three feet in diameter. The wild bees, though robbed by the hill-tribes and bears, (for Master Bruin is a lover of honey in India as well as America,) find a profusion of flowers spread for them, from which to repair their losses.—*Life in India, by Rev. J. W. Dulles.*

BEES AND TOADS.—Your interesting correspondent, M. QUINBY, must be mistaken as to toads not destroying bees. Bee-keepers in England are very much embittered against them, and no doubt not without reason. The writer has killed and seen killed, many fine bloaty old fellows in the immediate regions of the bees, and seen them opened, and found bees in their stomachs. E. S.

The Home Circle.

LETTER FROM NETTIE NETTLE.

MESSRS. EDITORS:—Allow me to introduce myself to your readers as Miss Nettie Nettle, of Nettle Grove, ——— county, Missouri. The Nettle family are very numerous in Missouri, and their coat of arms is a strong hand grasping the plant which bears our name, while beneath may be found the following inscription:

"Tender-handed touch a nettle,
And it stings you for your pains,
Grasp it like a man of mettle,
And it soft as silk remains."

We don't like cowards—we Nettles, and meet an open bold foe with a generous spirit, while we sting those who shrink from duty, sometimes, and make them as uneasy as we can. So if you accept me as a correspondent, you may expect me to touch lightly, with my prickles, some folks who forget what I think is right, and give my praise to those who boldly endeavor to avoid wrong.

I was thinking, Dear Girls, as I rode out this morning in the soft April sunshine, of the goodness and wisdom of God, in making the world so beautiful; and I could not help pondering the question in my own mind, "Why do the people so forget the lessons of faithfulness—hope and love—taught in the woods and hills, the rocks and the brooks?"

We passed a great rock, torn from the summit of a hill, by some commotion of nature, and hurled down to the plane below. It was small at the base and widened out till it spread a top to the sun of some ten feet square. It was a broken, unsightly, jagged thing. But nature and the wisdom of nature's architects had taken it in hand. The winds wafted dust and leaves to its top, and the seeds of velvet moss had hid themselves in the shallow soil and taken root. The golden sunshine had burst their tiny fetters and spread their emerald spires over its entire surface. The birds of the air had carried the seeds of flowers; the squirrel had dropped a nut, and thus the beast and bird as God's little busy workers, had done their part. The nut had taken root and grown to a tree, and now, while in the economy of nature the tree is called upon to rest from its labors, the violets and vernal flowers, the spring beauties and forget-me-not have made the rock glow in attraction, and every passer-by cries out with an impulse of pleasure, "how wonderful and how strange are the mysteries of Nature and Nature's God."

How magnificent is that arbor of grape vines, hanging in luxuriance over a cluster of "Dog woods," and see yon tree taking its root among the broken stones of the hill side, yes, struggled up a mere sapling in size till its top has reached a paralel with the great oak by its side. What a lesson it teaches to the reasoning mind. "Struggle for the light," is its cry to every passing traveler. "Struggle for the light."—Search as I do for the sunshine, for the rays of truth and love, to give gladness, health and strength to your own life. How few, oh how few, read these grand lessons. Now we leave the wood and the forest road, and drive past that great farm. There stands a house in the glare of the summer sun, and there by its side is the beheaded trunk of the great elm, that centuries had been perfecting for the use of man. Not a dogwood, to scatter its snow flakes in the spring time; not a wild plum or crab apple to fill the air with fragrance in April, or drop their fruit in August; not a grape vine to cling and strive and thrive to give shelter to the children in July, or learn them perseverance and energy in September; not a cherry tree to attract the robin to sing his morning reveilee beneath the window, or the mocking bird to cheer the household with his cheerful roundelay at the set of sun.

Dull, cold, bare is the garden spot before the door. No honeysuckle, wild woodbine, or Mississippi creeper shades the window.

Ask that farmer why does he not cultivate his door yard and garden, and he will answer, "All nonsense; I believe in giving my time to the useful, and if things are not useful I don't meddle with them." Does this good friend mean to say that the beautiful things that God has created are useless—that they have not their mission to perform—that the human heart is not made better by them. Go hunt among the people and find if you can, where the truest and kindest natures—where the holiest aspirations—where the best cultivated understandings, and the most fertile and refined manners dwell, and you will discover, if I mistake not, that it is in the souls where the love of the beautiful and the useful have blended together in one harmonious plan, to give pleasure and thought to the inmates of home.

Dear girls, of Missouri, you do not know how much you lose by neglecting to beautify and adorn your homes. You think because you cannot have the choice things from the nursery or green house, that it is useless to try to "fix up." Oh fie on such nonsense! Up in the morning, every one of you, and be out into the fields and woods with your basket and knife.—Take up the roots of the blue, white and yellow violets and border your walk; blend them together, and you will be astonished next spring at the pleasure they will give you. Set the blue bells in clusters here and there, and train up an elder or two into tree shape. They are as beautiful as snow balls, when well pruned and cultivated. Then in the summer they hang full of green berries, and in the fall are still attractive with their ripened purple fruit, which dried makes an excellent pie in winter, if mixed with apples, chopped fine. It has much the flavor of cherries.

Bring the wild balsam from the fence corner and the Sweet Williams from the wood, the Lilly from the meadow, the Pea and Larkspur from the Prairie. Gather from your neighbors gardens, the Marigold and "pretty sights;" take up a strong rose bush, here and there, a wild honey suckle, woodvine, creeper and a bitter sweet, and give them frames to run over. Cover your house, though they are only cabins, with freshness and verdure. Transplant the young sassafras, maple, fire bush and red ber-

ry, young oaks and elms and you will soon be surrounded by beauty and grace that will make your hearts leap with pleasure every time you look out upon the work of your hands.

You think all these things will be so common. Are not all things that are truly valuable common. The sun, and the air, and the dew, and falling shower, are they not common—common to all of God's creatures, and how miserable we should be if any of these were withdrawn.

Just so are we made poorer by sacrificing the natural for the artificial, and neglecting to beautify our homes, because we cannot love the grandeur and luxury of wealth.

Your true Friend, NETTIE NETTLE.

Nettle Grove, —— Co., Mo., April 1858.

The Young Folks' Page.

THE BOY THAT MAED A MAN.

Many years ago there lived a boy in one of the then new states, whose father was an humble farmer. He was a timid, bashful, quiet boy. In the new settlement where he lived, he seldom saw much of the world of men. He knew only his own family and a few hardworking neighbors like himself. When very young, he went daily into the field with his father to help clear up the new farm and raise provisions for the family. As for clothes he had only such coarse fabrics as his mother could spin and weave and make. As for school, he knew but little of them. He got an opportunity to go to school a little so as to learn to read and write. This enabled him to read the Bible, and a few family books and the newspaper as soon as his father was able to take one. He soon became a great reader and read all the books and papers he could borrow, but read them at odd moments when he could not work. His time was divided between his books and his work. His character was simple and childlike. He was honest—always honest. He would never lie or deceive or defraud. What was right he would do; what was good he loved. He was too timid to attract much attention; too quiet to make much noise. His leading traits of character were honesty, bashfulness, industry and desire for knowledge. When he was old enough he learned a trade In this he showed his great industry, for after he had learned it, he supported himself and sent money often to his parents who were now quite poor. But he still found time to read. And read he did. After a while he began to speak a little in lyceums; then to write a little. Sometimes he would write brief articles for the village papers. Now he began to divide his time between his books, his pen and his trade. So he went on, always honest, industrious and bashful, yet always pressed on, till now he is numbered with the greatest and best men of the world. His name is a household word all over our country and in many others. No man is greater; none exerts a greater and few a better influence. A farmer boy, he has become a great man. He still honors the farmer's profession. He is one of the finest friends of agriculture, and in many ways helps on in every improvement. Such men may many farmer boys become if they will do as he did. Honesty industry and desire for knowledge were what made him so great and useful. Let all boys follow such examples.

Good Nature.

There is nothing pleasanter in children than good nature. It makes them agreeable, cheerful and happy. It preserves them from many a trouble. keeps them from many evils and makes them in many ways useful. It is better to laugh than cry; better to be merry then sad. Fretting whining, crying children often greatly annoy everybody about them. Cross children generally make cross people. Crying children make fault-finders when they grow up. Children and young people should take special pains to be good natured, to be cheerful, pleasant, kind: keep the heart glad and the face wreathed in smiles, so shall all work and evil thoughts be kept away.

"BE KIND TO THE LOVED ONES."

"Be kind to the loved ones." This is one line of a sweet little song that all the children should know how to sing, or if they do not know how to sing it they should know how to act it. Songs can sometimes be acted as well as sung. This one can. Be kind to the loved ones, to father, to mother, to brother to sister, to playmates, to schoolmates, to workmates, to friends. All we love we should always be kind to. Yes and more. We should be kind to everybody. Nothing is pleasanter than kind children; nothing more tiresome than cross, selfish, surly ones. Be kind when you are hungry, be kind when you are cold; be kind when you are tired; be kind when you are reproved; be kind when you are denied privileges you desire; be kind in trouble, in sickness, in work and play. Children have their troubles, but in them all they should remember the song, "Be kind to the loved ones."

Editor's Table.

AGRICULTURAL LECTURES.

Norman J. Colman, Editor of the Valley Farmer, St. Louis, Mo., will lecture on Agriculture, Horticulture, &c., at 2 o'clock, P. M., on each day, at the following places and times:

Boonville,	Cooper	county,	Saturday	May 8th.
Clark's Fork,	"	"	Monday	" 10th.
Midway	"	"	Tuesday	" 11th.
Pisgah,	"	"	Wednesday,	" 12th.
Round Hill,	"	"	Thursday	" 13th.
Vermont,	"	"	Friday	" 14th.
Bell Air,	"	"	Saturday	" 15th.
Pilot Grove	"	"	Monday	" 17th.
Pleasant Green	"	"	Tuesday	" 18th.
Arator, Pettis		"	Wednesday	" 19th.
Georgetown	"	"	Thursday	" 20th.
Fairview,	"	"	Friday	" 21st.
Knobnoster,	Johnson	county,	Saturday	" 22d.
Warrensburg,	"	"	Monday	" 24th.
Columbus,	"	"	Tuesday	" 25th.
Cool Spring,	Lafayette	"	Wednesday	" 26th.
Sni-a bar,	"	"	Thursday	" 27th.
Greenton,	"	"	Friday	" 28th.
Wellington,	"	"	Saturday	" 29th.
Lexington,	"	"	Monday	" 31st.
Dover,	"	"	Tuesday	June 1st.
Waverly,	"	"	Wednesday	" 2nd.
Mount Hope,	"	"	Thursday	" 3rd.
Marshall,	Saline		Fridvy	" 4th.
Arrow Rock,	"	"	Saturday	" 5th.

The friends of agricultural improvement will confer a favor by giving as wide a notice as possible of these appointments. All are respectfully invited to attend.

The Weather and the Crops.

Wheat.—The accounts in the papers from every section of the country represent the growing crop of wheat as in a very promising condition. Indeed, the prospect of an abundant crop was never more encouraging. We have recently traveled through several of the western States, and never saw the wheat crop looking so well at this season of the year. If anything, the growth is too vigorous, but the recent cool weather has caused a favorable check, which will give a more firm and hardy growth to both stem and root.

Fruit Prospects.—We have seldom had a better promise of a more abundant crop of fruit up to the present writing (April 20), except for peaches, and the effects of frost on these has not been so general as was at one time supposed. In almost every section of the country, on the more elevated and favored places, there is still a fair show of young fruit, and from the goneral characterter of the winter and spring, we have strong hopes of passing the critical period of the few first days of May without frost.

The apearance of vegetation in this section of the country seems to indicate the opening of the fruit blossoms about five days earlier than the general average of seasons.

Glenville Stock Fair.—The third exhibition of the Glenville (Washington Co., Ky.,) association will take place on the 10th of June. The exhibition is free to all, and the public generally are invited to attend.

TO CORRESPONDENTS.

We are always gratified to receive communications from our friends, on any subject within the design of this journal—the result of experiments in cultivation, the condition of the crops, and any items of a practical character, relating in any way to rural affairs. We do not ask for long articles, indeed, we would prefer to have them short, and at once to the point. Our subscribers are too backward in this matter. In sending a communication, always, give your name and place or residence, though not for publication if you wish it withheld.

"Enquiries and Answers."—We regard it a pleasure to answer all questions that may be submitted to us by our subscribers, on any and all subjects connected with agriculture, horticulture and kindred branches, so far as we are able. If enquiries are made in regard to any particular crop, necessary to be answered at a particular season, always write early, so that it may appear in due time, as some portions of our paper goes to press in the early part of the month previous to its date.

Kohl Rabi.—A correspondent who has received a variety of seeds from the Patent Office, and among others the kohl rabi, inquires what it is and how it is to be cultivated?

Kohl Rabi, bulb-stalked cabbage, (Brassica oleracea) belongs to the cabbage tribe. It is a native of Germany, where it is much cultivated. It is quite extensively grown in some parts of this country by the Germans. When matured, it has a bulb, often growing to the size of a rutabaga turnip, between the base of the leaves and the ground. It is valuable for cooking and for stock. It is cultivated much like cabbage, only the plants may stand in the rows as near as 12 or 14 inches of each other. It may be sown where it is to stand, or may be transplanted like cabbages, and may be planted at the same seasons as is usual for that plant, but in our hot climate it is best to plant late, say in July, in order that the bulbs may have the cool weather of fall to mature in.

Some of the bulbs were sent last fall to the editor of one of our country exchanges, who made some remarks upon it as a great curiosity, to which the editor of the "Western Farm Journal," replied, and concluded by saying it was nothing but the common Hanover turnip. A great mistake, brother.

The Hanover turnip, so called by the western people, is the rautabaga or Swedish turnip, and resembles the Kohl Rabi only in its leaves. The Hanover or Sweed forms its bulb below the ground, and the Kohl Rabi entirely above the ground, with only a simple root like the cabbage.

Eds Valley Farmer:—Can you inform me if the Dutton Corn is an caly corn; what it produces to the acre, and what I can purchase it for in your city?

St. Joseph, Mo. B. M. H.

The Dutton Corn, twenty years ago, was one of the most popular varieties for nothern localities, remarkable for its early maturity and productiveness. It is a dwarfish, yellow variety, generally 12 and 14 rowed ears. One hundred bushels per acre have frequently been raised in New York and the New England States. It is said that Mr. H. L. Ellsworth once raised 240 bushels of ears on an acre of land, equal to 120 bushels of shelled corn. It will not yield such crops with the cultivation

ordinarily given to the corn crop in the West. For our correspondent's use it would only prove advantageous over the ordinary kinds in its early maturity, when that might be an object. It is appreciated at the north because it is not so liable to be cut off by the frost as the larger kinds are. Price $4 80 per bushel in St. Louis.

Berkshire Hogs.—F. H., of Breckenridge county, Ky., wishes to procure a pair of pure blood Berkshire pigs. C. N. Bement, of New York, and perhaps others, advertise them for sale in the Valley Farmer. If any persons residing more immediately in these parts have this breed of hogs to sell they would do well to make it known.

Devon Bull.—A subscriber some time since, wrote to us enquring where he could procure a young Devon bull. These are also for sale in the Eastern States. Those who breed this class of stock for sale should advertise.

Suffolk Pigs.—G. R. of Jackson county, Mo., inquires where he can obtain some pure bred Suffolk pigs. We refer him to the advertisement of Mr. C. Sanders in this number of ihe Valley Farmer. Mr. S. is a reliable man, and G. R. or any of our readers can rely upon getting the pure Suffolks of him.

Eds. Farmer:—I would like to enquire if there is any work obtainable on the fecundation of grasses, more particularly wheat, rye, barley, &c. I am a young farmer, but have had my attention much attracted to the matter without any known means of satisfying it.
Herculaneum, Mo. J. P. M.

Reply.—A work has recently been published by A. O. Moore, Agricultural Book Publisher, 140 Fulton street, N. Y., under the title of "A Practical Treatise on grasses and Forage Plants," by Charles L Flint, A. M., which will give our correspondent just the information he seeks. The work contains numerous illustrations of the various grasses, clearly showing the sexual distinctions you desire. The book will be sent by the publisher post-paid on receipt of $1,25.

Books and Pamphlets Received.

We tender our thanks to Henry A. Dyer, Corresponding Secretary of the Connecticut State Agricultural Society, for a copy of the Report of Prof. S. W. Johnson, Chemist to the Society. The Report is chiefly confined to the analytical results of a variety of concentrated fertilizers, in all, sixty-two samples, embracing all the different guanos from the various deposits, superphosphates, poudrettes, peats, peat ashes, cotton seed cake, &c., affording a vast amount of useful information to those who buy this class of manures, showing the cash value of each, as determined by analysis, compared with the prices at which they are sold by different manufacturers and dealers. In some cases there is a wide contrast between the value and the price asked. The work is not only valuable to the farmer, but it will have a tendency to check excessive adulteration in the manufacture of the various manures that now command so extensive a sale in the Atlantic cities.

Reports of the Committees of the Massachusetts Horticultural Society for 1857. A copy of these reports has been received through the kindness of some unknown friend.

Annual Sale of Short Horns and South-Down Sheep at Woodburn Farm.—R. A. Alexander's fourth annual sale of choice cattle and sheep, will take place on the 2d day of June next, It is also announced that the Bourbon County Cattle Breeder's Association will have their annual sale on the following day, at Paris, Ky. Western farmers may then secure superior breeding animals. For particulars see advertisement in our advertising pages.

New Roses.—We have been favored by Mr. Heaver, of the Reading Road Nurseries, Cincinnati, Ohio, with two new varieties of roses, called Bauty of Greenmount and Woodland Margaret. They were raised by Mr. Jas. Pentland, of Baltimore, Md., (for whom Mr. Heaver is agent for the West). They are said to be very distinct and beautiful varieties, and most desirable acquisitions to this lovely and interesting class of flowers.

Henderson (Ky.,) Union and Hopkins Scientific, Horticultural and Mechanical Association, have held their annual meeting and elected the following officers for the ensuing year: For President, John S. Towles. Vice Presidents, for Henderson county, Wm. S. Elam; for Union county, Geo. Payne; for Hopkins county, Richard Danville. T. J. Hopkins, Treasurer; Wm. A. Hopkins, Secretary.

Death of Robert Carmichael.

We are pained to have to announce the death of Robert Carmichael, which occurred on the 17th of January last, although a knowledge of the event has but just been communicated to us.

Mr. Carmichael was a native of Scotland, and was educated at the London Horticultural Society's Gardens. On the application of the Frankfort (Ky.) Cemetery Company for a proper person to aid in the selection of a suitable place for a public burying ground, and to lay out and improve the same, Mr. Carmichael was chosen among the hundreds of young men of that noble institution, to fill the place. A long, subsequent acquaintance with his intelligent, noble and generous character has proved the wisdom of the choice. A cotemporary, in alluding to his many manly qualities, his sterling integrity, his cultivated mind and his social virtues, concludes by saying that "no man ever lived who had a nicer sense of honor or a kinder or truer heart. He was truly a man without guile—ardent in his friendship, generous in his confidence and unsuspicious in his temper."

After several year's persevering, industrious application, Mr. C. finished his labors in the Frankfort Cemetery, which is now acknowledged to be one of the most beautiful and highly improved in the West, or even in the country. He then engaged in several enterprising projects, which he prosecuted with untiring perseverence and industry; when, in the midst or of his usefulness and in the prime of his manhood, he was suddenly overtaken with a fatal disease that in a few short hours terminated his earthly existence. His remains were conveyed from Cincinnati to the Frankfort Cemetery, where they repose near the grave of the once heroic Daniel Boone, under the shadow of the living monuments, the choice and arrangement of his own refined and cultivated taste, and the planting of his own hands.

Convention of Agricultural Editors.

We have receive a circular suggesting the propriety and importance of a convention of Agricultural and Horticultural Editors, at some convenient time and place, for the purpose of discussing some of the most important questions connected with the culture of the soil, and matters of general interest to the farmers of the country. This circular has been issued with a view to call out an expression of opinion of the editors of the agricultural and semi agricultural press throughout the country on the subject.

We fully concur in the measure, and hope that it will meet with general favor from editors interested in this department of science and industry. The city of New York has been named as a central and appropriate place for holding the convention, and about the middle of June next as the most proper and convenient time. We do not know a point that affords greater inducements for such a meeting than New York. To all those who live near, it is convenient, and to those more remote a visit to the great metropolis of the nation always holds out attractions, if business does not call them there. As to the time, the middle of June, we should suppose would be a season of as much leisure as any, and as pleasant for such a trip.

It is proposed that editors interested in this movement give their views in regard to the time and place of holding such a meeting, also to name suitable persons to constitute a Committee of correspondence, to make arrangements for the first meeting.

At an informal meeting of gentlemen accidentally brought together, recently, in the city of New York, the following persons were named as such a committee, the nomination to be subject to ratificiation or alteration by the general expression of the press:

Simon Brown, Ed. New England Farmer.
Luther Tucker, Ed. Country Gentleman,
D. D. T. Moore, Ed. Rural New Yorker,
Thomas Brown, Ed. Ohio Farmer,
Jas C. Medill, Ed. Prairie Farmer,
H. P. Byram, Ed. Valley Farmer,
J. Jay Smith, Ed. Horticulturist,
Samuel Sands, Ed. American Farmer,
Frank G. Ruffin, Ed. Southern Planter,
Daniel Lee, Ed. Southern Cultivator.

Indiana State Fair—Trial of Reapers and Mowers.—The Seventh annual Fair of the Indiana State Board of Agriculture will be held at Indianapolis during the first week in October, 1858, commencing Monday 4th and terminating Saturday 9th. Their Premium List foots up $9,000, principally in cash. A trial of reaping and mowing machines will be held at La Porte, on Wednesday and Thursday the 7th and 8th of July, 1858. Every preparation will be made to have a thorough and satisfactory trial and the fullest competition is invited. It is believed to be the best field for honorable competition ever opened on the broad prairies of the great West, and is located at a point that is easily accessible by Railroad to all the great grain growing regions and machine making depots in the U. S. The trial will be held under the supervision of a Committee appointed by the Indiana State Board of Agriculture, who are invested with authority to appoint an awarding committee and fill vacancies in the same. No care or labor will be spared to make the arrangements equal to the emergency, and worthy of the country and the machines. The awarding committe will make public their decision at the October fair, when all the competing machines will be expected to be on exhibition. The supervisory committee consists of

A. E. Vinton, Indianapolis, Indiana.
T H. Collins, New Albany, "
Stearns Fisher, Wabash, "

It is expected that every officer of the State Board will be present at the trial.

Verbenas, Geraniums, Heliotropes, Petunias, Dielytras, &c.—Our floral friend, Edgar Sanders, of Chicago, Ill,, will accept our thanks for a fine assortment of the above plants. Mr. Sanders has been for many years past the floral correspondent of the "Country Gentleman," and as such, has attained the reputation of being an able writer and reliable florist. He has recently established himself in the floral business in Chicago, with the view of supplying the Western people with anything they may desire in his line. Our readers may rely upon being honorably dealt with in sending him their orders. A few dollars expended for these plants will render your homes far more charming and attractive.

Transactions of the Illinois State Agricultural Society.—We have been favored by S. Francis, Corresponding Secretary, with the second volume of this work. It is well gotten up, and contains a fund of useful matter, illustrating the great agricultural capacity of the State of Illinois. Mr. Francis has our thanks.

CONTENTS OF No. 5.

REMOVAL.

The Office of the Valley Farmer in St. Louis, has been removed to the South-east corner of Chesnut and Second streets, immediately over the POST OFFICE, 3d story.

SUFFOLK PIGS.

I have for sale 8 pure bred Suffolk Pigs, now about 4 weeks old. The sow having the pigs, is a pure Suffolk from the importation of Mr. Stickney, of Boston, and the sire is the fine Suffolk boar now owned by Jonathan Jones, Esq., that took the sweepstake premium of sixty dollars at the last fair of St. Louis Agricultural and Mechanical Association.

It is now generally conceded that the Suffolks consume a less quantity of food in proportion to their weight, and attain an earlier maturity than any other breed. Their crosses upon our common stock make a very superior hog for fattening purposes.

The pigs that I have for sale, for purity of breed and beauty of form are not surpassed in the United States. Price $25 each; put up in boxes and delivered on any steamboat or at any railroad depot in St. Louis.

Address C. SANDERS, box 708, St. Louis.

R. A. ALEXANDER'S SALE of SHORT HORNS, &C.

R. A. Alexander's 4th annual sale of Short Horned cattle, &c., will take place at Woodburn Farm, Woodford county, Ky., on the 2d day of June next, (being the first Wednesday in that month,) when a number of very superior young Bulls and Heifers will be sold; also some South Down Sheep from imported stock.

Woodburn Farm adjoins Big Spring Station, on the Lexington and Frankfort Railway, being 15 miles from the former and 10 from the latter place.

☞ The Bourbon County Cattle Breeder's Association will have their annual sale on the following day, at Paris, which can be easily reached after the close of the sale at Woodburn, in time to attend it. Purchasers will thus have a double opportunity of obtaining stock to suit them.

Catalogues will be ready one month previous to the day of sale and may be had on application to R. A. Alexander or S. U. Johnson, Spring Station, Woodford county, Kentucky. Mayl t

1,000,000 SWEET POTATO PLANTS.

PRICE, $1 per 400; $2 per 1,000; $3 per 5,000; $15 10,000.

Plants of my variety and growth have produced good crops 44° north. Orders filled till 20th June. Packed so as to arrive in good condition, whether 100 or 1000 miles distant. Only good and well rooted plants sent. Directions for cultivation sent when desired.

P. O. address, M. M. MURRAY,
Twenty Mile Stand, Warren county, Ohio.
By Express, Foster's Crossings, Little Miami R. R.

SUFFOLK PIGS.

TWO litters of pure bred SUFFOLK PIGS, from stock imported by B. V. French, Esq., Braintree, Mass. are now for sale at prices to correspond with the times. One litter is now eight weeks, the other one week old. Price $10 each, until three months old, when it will be advanced to $12 50. Also a few choice African and Se bright Bantams, Bolton Greys, Golden Spangled Hamburghs, Golden Crested and Brahma Fowls, Brazilian and Rouen Ducks, Peacocks, White Turkeys and fancy Pigeons. A few pair domesticated deer, all bred at Springside. For further particulars, address

C. N. BEMENT,
Feb. tf. Springside, near Poughkeepsie, N. Y.

R. G. SMITH,

CARTHAGE, HAMILTON COUNTY, OHIO,

MANUFACTURER OF

Sanford's Patent Straw and Hay Cuutter,
Ingersol's " Hay Press,
Bean's " Fanning Mill,
Male's " Cider Mill,
The Ohio Portable Corn Sheller,

☞ Workmanship and materials warranted good.
A liberal discount to the Trade. aptf.

ADVERTISEMENTS

To secure insertion in the Valley Farmer, must be received in our office, as early as the 15th of the previous month. See terms.

A Book for the Season.

THE GARDEN; A NEW POCKET MANUAL OF PRACTICAL HORTICULTURE. Everybody who owns or rents a garden, large or small, will find this best of all garden manuals indispensable. It gives full directions for the cultivation of

ALL THE KITCHEN VEGETABLES;
ALL KINDS OF FRUITS AND BERRIES;
ALL SORTS OF FLOWERS AND SHRUBS; and
ALL THE BEST ORNAMENTAL TREES.

It tells all about

SOILS AND MANURES; VEGETABLE GROWTH; and THE STRUCTURE OF PLANTS; WHAT PLANTS LIVE UPON; and shows

HOW TO PREPARE THE GROUND;
HOW TO SOW SEEDS;
HOW TO CULTIVATE;
HOW TO GRAFT AND BUD;
HOW TO PRESERVE FRUITS AND VEGETABLES;
HOW TO DO EVERYTHING.

It is

POPULAR, RELIABLE, FULL OF INFORMATION,
PRACTICAL, COMPREHENSIVE, VERY CHEAP.

You may readily understand it, easily remember its directions, and without difficulty put them in practice. It is MULTUM IN PARVO, and may be carried in the pocket. Adapted to all sections, and sold everywhere. Orders should be sent in at once. Price, in paper, 30 cents; in muslin, 50 cents.

The Series of four "Rural Hand Books," to which this belongs—"The House," "The Garden," "The Farm," and "Domestic Animals," will be furnished to subscribers ordering them all at the same time for $1.

Address FOWLER & WELLS,
my.2t. 308 Broadway, New York.

PUBLIC SALE OF

Pure Bred Short Horned Cattle, 8 Horses, 25 South Down and Cotswold Sheep, and 40 Suffolk Pigs.

The above stock will be sold at public auction on Wednesday, June 16th, at 12 o'clock, at the farm of the suscribers. Catalogues furnished on application.

B. & C. S. HAINES.
ELIZABETH, New Jersey,

Fourteen miles from the city of New York, by New Jersey R. R. Trains running every hour. 1t

LATEST IMPROVEMENT IN SEWING MACHINES.

EVERY TASTE SUITED.

THE LADIES are especially invited to call at 85 Fourth Street and examine

SINGER'S NEW

Family and Boudoir Sewing Machines.

These machines are beautifully ornamented in the highest style of art—some of them are entirely and others partially inclosed in splendid enameled, rosewood mahogany cabinet cases.

N. B. Persons unacquainted with the qualities of the different Sewing machines b fore the public, can easily assure themselves that they run no sort of risk in purchasing a Singer machine; for, independent of the high reputation of these machines, all sales are made under the following guarantee:

Warranted not to get out of order unless abused.

Warranted to sew the finest as well as the coarsest fabrics.

Warranted to make, perfectly, the beautiful interlock stitch—the only stitch that can neither be ripped nor ravelled, and that can be applied to all kinds of work.

Warranted to be the best machines for family or manufacturing purposes ever invented.

Sales room, 85 Fourth street.

mytf. EDWIN DEAN.